the OIL AND GAS JOURNAL

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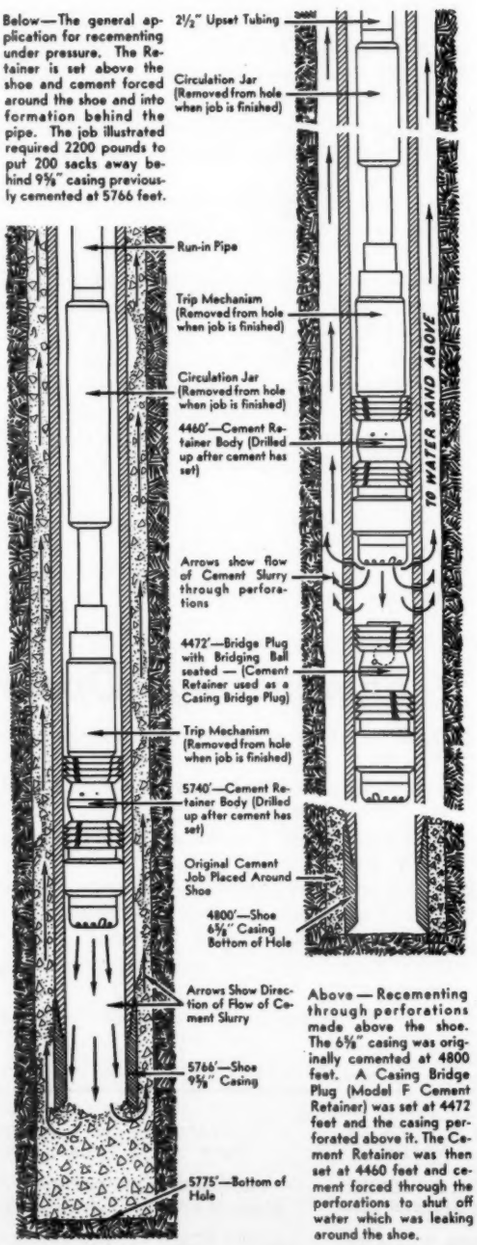
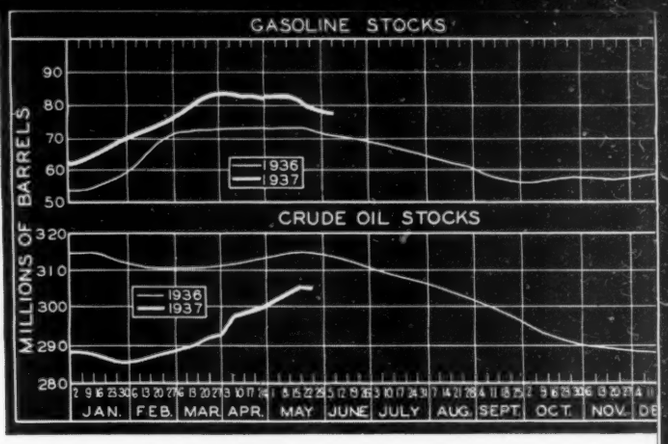
Below—The general application for recementing under pressure. The Retainer is set above the shoe and cement forced around the shoe and into formation behind the pipe. The job illustrated required 2200 pounds to put 200 sacks away behind 9⅝" casing previously cemented at 5766 feet.


2½" Upset Tubing
Circulation Jar (Removed from hole when job is finished)
Run-in Pipe
Trip Mechanism (Removed from hole when job is finished)
Circulation Jar (Removed from hole when job is finished)
4460'—Cement Retainer Body (Drilled up after cement has set)
Arrows show flow of Cement Slurry through perforations
4472'—Bridge Plug with Bridging Ball seated — (Cement Retainer used as a Casing Bridge Plug)
Trip Mechanism (Removed from hole when job is finished)
5740'—Cement Retainer Body (Drilled up after cement has set)
Original Cement Job Placed Around Shoe
4800'—Shoe 6⅝" Casing Bottom of Hole
Arrows Show Direction of Flow of Cement Slurry
5766'—Shoe 9⅝" Casing
5775'—Bottom of Hole
TO WATER SAND ABOVE

Above — Recementing through perforations made above the shoe. The 6⅝" casing was originally cemented at 4800 feet. A Casing Bridge Plug (Model F Cement Retainer) was set at 4472 feet and the casing perforated above it. The Cement Retainer was then set at 4460 feet and cement forced through the perforations to shut off water which was leaking around the shoe.

BAKER CEMENT RETAINER

Also used as a Casing Bridge Plug



Penna. Oil

Highest Since 1930

AN advance in Pennsylvania Grade crude oil and the first substantial reduction in national crude oil output since early April, were important developments of the past week pointing to improved marketing conditions throughout the summer months. The 15-cent increase on Monday for all crudes in Pennsylvania, New York, West Virginia and Ohio which are given a Pennsylvania Grade rating, resulted in prices at the wells ranging from $2.37 to $2.82 per barrel. These are the highest schedules for these crudes since 1930.

CRUDE PRODUCTION *3,544,668 barrels daily average—down 42,138 barrels.*

CRUDE STOCKS *304,971,000 barrels as of May 22—down 394,000 barrels.*

GASOLINE STOCKS *77,494,000 barrels as of June 5—down 1,264,000 barrels.*

REFINERY RUNS *3,195,000 barrels daily average past week—down 50,000.*

In the past Pennsylvania Grade crude quotations have moved up and down, in keeping with conditions in premium lubricating oil markets. During the early depression years the crude lost a large part of its premium position in relation to Mid-Continent and other oils. Over the past two years this situation has turned again and price increases have outstripped those in other areas. While production has increased, the present output is only 81,000 barrels daily, with no indications that this supply can be materially increased over the remainder of the year.

The large gain in domestic lubricating oil demand which amounted to more than 20 per cent the first quarter, has materially strengthened Pennsylvania refinery markets. This has been reflected in the demand for the crude. Still higher prices for the crude and its lubricating oil products are predicted for the immediate future.

All of the larger oil-producing states with the exception of California contributed to the decline of more than 42,000 barrels daily in crude production last week. Oklahoma, Texas, California and Kansas were still averaging 170,000 barrels daily in excess of Bureau of Mines recommendations and state allowables, and additional declines are expected this week. In May, when June operations were projected, it was estimated that a reduction of approximately 200,000 barrels daily was necessary to end additions to crude storage.

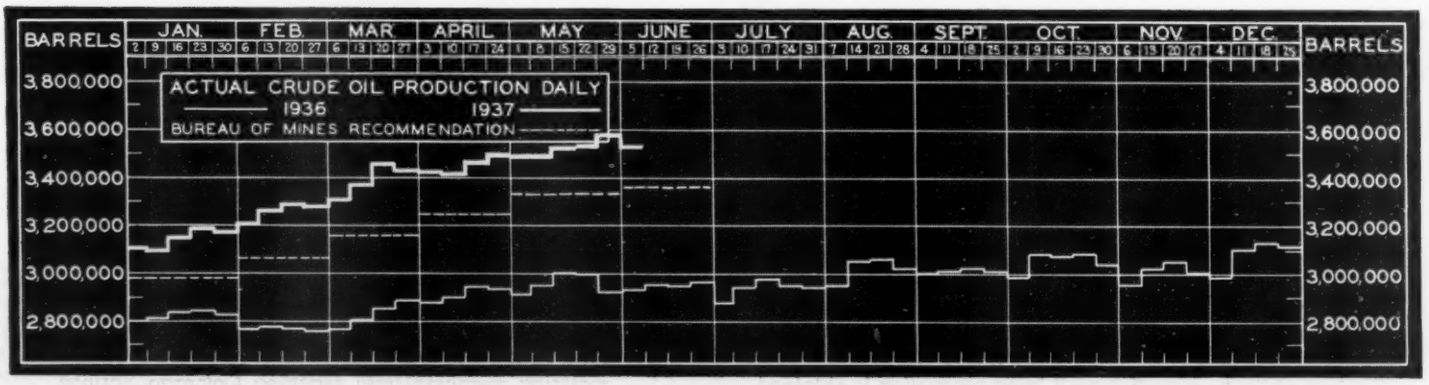
With the completion of a second well in the Schuler field and additional locations reported, the new Arkansas pool promises to become one of the most active areas in the Mid-Continent. Due to the desire of the state for increased revenue, the field may be allowed to produce without the usual proration restrictions of new fields in other states.

Gasoline stocks are decreasing at a more rapid rate than they were last year. This is said to be partly accounted for by the extra heavy shipments from refineries to bulk terminals along inland waterways.

Daily Average Production for Week

	June 5, 1937	Bur. Mines June est.	June state allowable	May 29, 1937
Oklahoma City	152,200	.....	.....	165,275
Fitts	93,425	.....	.....	101,775
Remainder of State	396,725	.....	.....	393,725
Total Oklahoma	642,350	625,300	625,300	660,775
East Texas	468,247	.....	.....	467,653
West Texas	201,846	.....	.....	209,837
North Central Texas	106,198	.....	.....	106,896
Texas Panhandle	85,200	.....	.....	85,337
East Central Texas	126,049	.....	.....	124,029
Gulf Coast—Texas	327,447	.....	.....	337,434
Southwest Texas	103,550	.....	.....	105,678
Total Texas	1,418,537	1,354,000	1,351,198	1,436,864
North Louisiana	79,000	.....	.....	78,735
Gulf Coast—Louisiana	167,600	.....	.....	169,567
Total Louisiana	246,600	252,000	254,650	248,302
California	664,000	585,900	603,900	658,500
Kansas	199,925	190,700	190,700	202,675
Arkansas	28,095	28,300	.....	27,150
Eastern Fields	118,200	118,200	.....	118,300
Michigan	44,391	38,400	.....	45,500
New Mexico	115,060	102,000	114,500	114,270
Rocky Mountain area	67,510	71,200	.....	74,470
Total United States	3,544,668	3,366,000	.....	3,586,806

Decrease, 42,138 bbls. daily.



SPARKS FROM THE NEWS

Estimates made at the first of the month indicate that Mid-Continent refinery operations will advance to an all-time high during June.

Handling salt water produced with crude oil is increasing in importance as one of industry's major problems. Estimated at least three times as much water as oil is produced daily.

This week's 15-cent increase in the price of Pennsylvania Grade oil is equivalent to an addition of about $375,000 per month to the income of the producers and royalty owners.

A Houston, Tex., oil concern is having a 40,000-acre block in far-off Nebraska seismographed, notwithstanding that Texas can supply the world's current oil requirements. "Hills are greener when far away."

A new trend in the design of steam-generating installations is indicated by unit nearing completion in a Gulf Coast refinery. Instead of being housed in the usual building, boilers are installed in the open.

Gasoline stocks began to decline unusually early this year.

Despite heavy additions to crude oil stocks since February 1 of this year, the total at present remains below that of a year ago.

Prophets who said 1937 would shatter records in gasoline consumption are beginning to point with pride.

Expressions of concern over ability to meet next winter's prospective demand for furnace distillates gives new point to statistics on the expanding use of oil burners.

A new method of antiknock testing will become effective September 1. One of the results will be further improvement in motor fuel quality for motorists and greater stress on improved processing for refiners.

New Union County, Arkansas, field to become important in more ways than one. Desire of state for increased revenue may postpone proration until large production is obtained.

Disgusted refiner defeated by geologist at Colorado Springs golf tournament is suspicious as to what "rock hounds" really do on field trips.

Reports of A.P.I. Mid-Year meeting indicate that a comprehensive well-spacing program will be submitted to oil producing states in near future. Those sponsoring program believe that it is necessary to assure permanent stabilization in the industry.

A combination of more cars, leisure and money assures record consumption of gasoline by tourists this summer.

"Plugging back" in deep tests has resulted in important discoveries over the past year. The latest is located in the Centrahoma district in Coal County, Oklahoma.

The National Labor Relations Board's California decision upsets the opinion that its rulings apply only to companies having more than 50 per cent interstate business. But the courts may have the last word.

A decrease of 42,138 barrels daily in national crude oil production last week was an encouraging development looking toward a substantial reduction in output during June. The week's production was still 178,000 barrels daily over the estimated demands of the Bureau of Mines.

A tax bill of a billion dollars a year and a 40 per cent levy on its principal product—gasoline, do not support the charge that the oil industry is evading its fair share of the tax burden.

REDUCED A.P.I. ATTENDANCE

B. O. Ledbetter

Flood in Canadian River and other streams prevented many motoring members from reaching Colorado Springs

Pictures, Inc.

Record Summer Gasoline Demand Is Under Way

By H. STANLEY NORMAN

NEW YORK, June 7.—The greatest touring season in the history of American automobile transportation is in prospect during the next 90 to 120 days. This fact stands out in bold relief from the data of touring services maintained by the country's leading oil companies. Dependence of the motoring public on oil company touring bureaus is growing at such a rapid pace the number of inquiries for routings is correlating surprisingly close to the actual increase in gasoline consumption.

While it is contrary to the policy of some companies to make public the actual number of inquiries received for routings, hardly without exception the number so far this summer and earlier in the year has exceeded comparable periods in 1936 by 5 to 15 per cent. The average increase in inquiries for travel routings ranges around 12-13 per cent among the larger companies whose figures are considered indicative.

A cross section of the inquiries received by the large touring services does not disclose any particular features in this summer's travel. Nature of the inquiries varies widely, dependent on the source of requests for routings, but the big bulk of travel remains confined to week-end trips totaling as a rule not more than 200 to 300 miles.

Inquiries for longer routings are slightly more numerous this season than last, but the real feature is in numbers rather than in length of trips proposed.

As was the case in 1936, thousands of inquiries are being received by touring services for routings to Dallas, Tex., where the Pan-American exposition, a continuation of the Texas Centennial celebration is being offered from June 12 to October 31 and to Cleveland, Ohio, where the Great Lakes exposition is being presented for the second year. The national parks in various parts of the country are also a popular destination, based on touring inquiries. Although trailer popularity has experienced a phenomenal growth, there are surprisingly few inquiries directed to oil company touring services which disclose use of this mode of travel. Touring service directors do not consider the lack of specific mention of trailers in requests for routings as having significance, however, since the inquirers are chiefly interested in the best and shortest routes. With the modern network of paved highways, the addition of a trailer to the normal load does not require special routings.

Expressed merely as personal opinions, the touring service directors are inclined to view the indicated increase in this summer's travel as the natural result of more employment, granting of vacations in more industries and a shorter work week permitting car owners to take short week-end trips. There is also a carry-over of the belief that thousands of families were adjusted to new or different positions during the past two years and now feel sufficiently secure to indulge in spending savings or current income for trips which may have seemed ill-advised in 1935 and 1936. There are to be no radical changes, either deletions or additions to the touring services offered by the large oil companies this year so far as could be learned in this territory. Almost without exception, companies offering touring services are prepared to issue a greater number of maps than ever. Supplemental service, including division or sectional maps showing detours and construction locations, is being extended. With one outstanding exception, the policy of touring services is to refrain from making specific recommendations on hotel and restaurant accommodations along the routes. The company which is an exception to the general policy, reports only a minimum of complaints and defends this service as one

Factors in Coming Summer Demand

Tourist season opened with more registered motor vehicles on highways than ever before.

Higher percentage of trucks, buses and other commercial vehicles which are the largest per unit consumers of motor fuels.

Activities of tourist bureaus of oil companies and other agencies will stimulate travel in all parts of the country. Disturbed conditions in foreign countries will aid domestic motor travel.

Reduced working hours per day and five-day-week give more time for daily and week-end trips. Larger percentage of employes given vacations which provides time for long tours.

New bridge and highway construction has increased accessibility of many points of interest to tourists.

Representative estimates point to more than 10 per cent gain in motor fuel demand over last summer which was the previous peak for that period.

Exports of crude oil and products running 15 per cent ahead of last year.

of outstanding value to the traveler unacquainted with the territory. Furthermore, travelers are demanding a greater amount of information from year to year.

At the same time, the companies which refrain from making specific recommendations for hotel and restaurant accommodations find a certain amount of dissatisfaction from cities and towns only slightly removed from the suggested routes. An even more annoying source of complaint is from smaller cities which are of necessity not shown on the sectional "highway condition" maps, but who object strenuously to being omitted. In one instance a chamber of commerce secretary was instrumental in launching a boycott against service stations handling the products of a large company which had failed to include his city on one of the "highway condition" maps which are revised every 30 days and are issued only as a medium of showing detours and construction and as supplementary to the regular maps which are revised only at intervals of 90 days.

Despite these difficulties which are unavoidable and which companies strive to hold to an irreducible minimum, statistics are available to prove the tangible value of maintaining touring service. Probably the best proof is the growing list of companies offering touring service. Several companies were reluctant to assume the additional marketing expense of an efficient touring service. In such cases, the service available was largely confined to maps corrected at intervals of 12 months and available only at company operated or company supplied stations. Detailed information available at stations of companies which did not go beyond the map supplying stage seldom extended beyond a radius of 100 miles.

Oil companies recognize the danger of extending touring service facilities beyond all limits of reasonable profit expectancy and the trend probably is more inclined to the conservative side of efficiency. There are no obligations imposed or implied on the motorist seeking maps and other information. Under existing conditions, it is frequently impossible to determine whether the company supplying information for a 1,000-mile trip received 1 cent revenue. In other cases, however, it is possible to show conclusively the company derived exclusive business from the party served. But, as frequently happens, the motorist served with touring information is a regular customer. Therefore, the touring service expense and trouble assumed by most companies in the modern scheme of marketing, is partly for protection of business gained perhaps through some other medium and partly for the purpose of acquiring new business formerly supplied through other channels which accrues to the concern best equipped to serve.

An item in consumption not reflected in touring service inquiries is the demand for commercial vehicles. Only in a small percentage of cases do inquiries for routings originate from commercial vehicle operators. Most of the commercial traffic is over well established routes with which drivers are familiar. The increased travel and operations by commercial consumers are not reflected in the touring service inquiries, although the gain in demand by trucks and buses is considerable.

Weather conditions figure to some extent in the volume of inquiries entering touring service offices. During the Ohio River floods inquiries at offices in or near the inundated section were 25 per cent over similar periods in 1936. The significant point is the extent to which the motoring public has grown to depend on oil company touring services.

Touring service departments are uncertain of the true meaning of limited inquiries containing specific mention of trailers. Some are inclined to believe the popularity of trailers has been exaggerated. Others are of opinion travelers are not concerned over unimportant details and fail to mention use of a trailer simply because this particular is of their own concern. Most any convenient level highway shoulder is sufficient for an overnight stand.

Reliable information on the number of passenger car trailers in service is unavailable. Estimates range from 250,000 to nearly double that. During 1936 alone, the Department of Commerce announced recently that 11,069 passenger car trailers were manufactured and sold. The total number of trailers manufactured and sold during the past year was reported as 53,646. Motor truck semi-trailers made up a large part of the total business and units of this classification aggregated 23,875 during the year. There were 2,519 truck trailers in the total, 16,173 house or coach units and 10 house cars. The totals represent the activity of 357 factories.

Opinions are being expressed currently that the greatest field open to trailer manufacturers consists of the population retiring on moderate savings or incomes. Just what importance can be placed on this trend from a gasoline consuming standpoint is equally confusing, although experience so far has been that about three miles less per gallon of gasoline is obtained by the average motor car pulling a trailer than when unincumbered. Ownership of trailers is not now expected to prevail among any considerable proportion of the so-called white collar class. Experience is teaching that the white collar worker with two or three weeks vacation annually is not a first class trailer prospect. The investment required for a two or three weeks trip in a trailer is in many instances beyond his means and furthermore represents a liability during the other 49 or 50 weeks on which depreciation and storage expense must be incurred. Furthermore, there is the question of cramped quarters and of women who could hardly consider the preparation of meals, washing of dishes and laundering with facilities less adequate than prevailing at home.

The extent to which motorists have grown to depend on oil company touring services is almost beyond belief. One company received a request recently for a routing from the east to west coast and the inquiry included a request for detailed information on temperatures at which the baby's milk should be maintained while crossing the desert. Another man from Kansas City wanted to drive his truck to New York, board a steamship for Egypt and drive from there to South Africa. He wanted to know not only the details of highway facilities, but also the price of gasoline en route from Egypt to his destination. Touring services in this country discourage inquiries for foreign routings and the number received is a very small fraction of 1 per cent of the total.

Although foreign travel is beyond the scope of service supplied by domestic oil companies, indications are European consumption will follow about the same trend as indicated in this country for 1937. One important factor is the International Exposition at Paris. Probably of greater long term importance, however, is the highway construction program in various foreign countries. Germany has been one of the leading countries in construction of super-highways. Even in the Near East where economic conditions are less favorable, asphalt highways are spreading rapidly and the more popular routes are now satisfactory compared to a few years ago.

Pictures, Inc.

New bridges provide outlets for urban motorists—Triborough bridge, New York

Oil Payment Tax Decision

The U. S. Supreme Court has sustained right of an operator to assign specific oil to a lease holder and exclude the income from this oil from his income tax return in the appeal of W. A. Thomas, internal revenue collector for the Dallas district, against J. J. Perkins, Wichita Falls.

Mr. Perkins and his associate, W. J. Green, in the Faith Oil Corp., acquired leases in the East Texas field from Mamie S. Hammonds and Fred P. Branson. They paid them $10 in cash and agreed to give them oil to the amount of $395,000. Mr. Perkins assigned sufficient oil to cover the contract to Hammonds and Branson and failed to include the $395,000 in his 1933 income tax return. Collector Thomas assessed a deficiency against him, and after a depletion allowance was claimed.

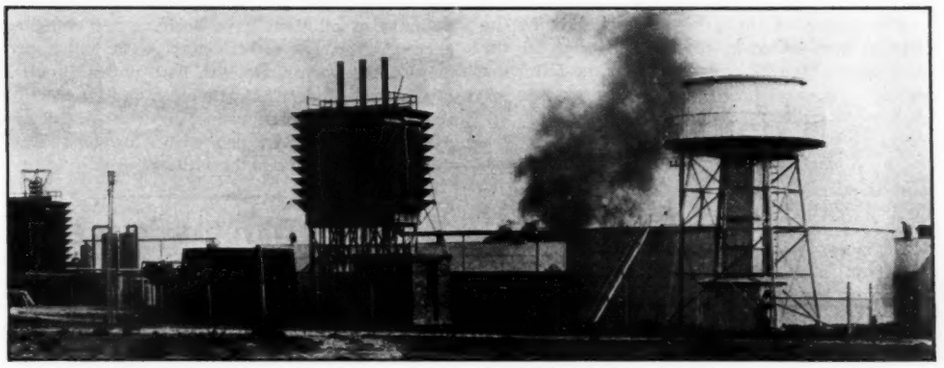
The Supreme Court held Mr. Perkins was not required to include the income from the oil in his income tax return.

Test Southeastern Nebraska

Nebraska is to have another test, this time in the southeastern part of the state. L. R. Page and others will drill in C SE SE section 31-1n-1e, Jefferson County, on a block in which the Sinclair, Carter, Magnolia, Gulf and Ohio Oil companies have taken spreads.

Production in Permian Basin Nearing 1929 Top

By NEIL WILLIAMS



Phillips Petroleum Co.'s gasoline plant in Hobbs field, New Mexico

With field development on the increase, oil production of the Permian Basin district of West Texas and Southeast New Mexico is being restored to the peak levels reached during 1929. Daily output of the district has climbed to approximately 322,000 bbls., and although this lacks more than 78,000 bbls. of equaling the high mark of slightly over 400,000 bbls., continued gains are cutting down that margin rapidly.

During the past two years since the present active exploration and development play has been under way, daily production, despite proration restrictions, has increased more than 125,000 bbls. Of this amount, nearly 70,000 bbls. has been added within a year.

This is the third of a series of special articles on Permian Basin development written by Neil Williams following a tour of the principal fields. The first article was published in The Oil and Gas Journal of May 20; the second on May 27.

Production today is higher than at any time since July, 1930, when the daily recovery was running around 335,000 bbls. Since November, 1933, when a low mark of 162,000 bbls. in daily output was reached following an almost continuous falling off of production from the peak of 1929, there has been a consistent upward trend.

A substantial part of the increase in production is attributable to fields on the New Mexico side of the line. At the time total production of the district was at its peak of more than 400,000 bbls. daily, production of Southeast New Mexico was less than 2,500 bbls. Since that time the daily output of this area has mounted to more than 111,000 bbls., representing more than 34 per cent of the present total of the district.

The growing importance of Southeast New Mexico as a producing area is being strengthened materially by the consistent development and production records of such fields as Hobbs, Eunice and Monument. These three fields, each of which has been opened since 1929, are producing respectively, 21,850 bbls., 32,650 bbls. and 32,425 bbls. daily. They are among the largest fields in the Permian Basin. Although Hobbs has been drilled up, Eunice and Monument still are undergoing development with productive limits being extended.

New Mexico Trend

With the successive addition of new fields, the production trend of Southeast New Mexico has been consistently upward from the beginning. Increases in this area offset in the total production figures for the district some of the decline suffered by fields on the West Texas side of the line when development in the latter area subsided following the peak days of 1929. During the period from 1929 to the latter part of 1933 when daily production of the district fell off from a high of 400,000 bbls. to a low of 162,000 bbls., the output of West Texas fields dropped from 398,000 bbls. to a low of 123,000 bbls. At the same time the recovery of New Mexico fields increased from 2,380 bbls. to 40,700 bbls.

In the same way, when production of West Texas again started upward in November, 1933, increasing from the low of 123,000 bbls. to the present figure of approximately 210,000 bbls., continued consistent additions to New Mexico production played an increasingly important part in boosting total figures to higher levels.

Although allowable production of West Texas fields, under proration orders of the State Railroad Commission, was reduced June 1 from that of May 1, the spread of development and continued addition of new wells are expected to make up that cut before the close of the month, and with any future increases in allowable, production will continue its upward trend.

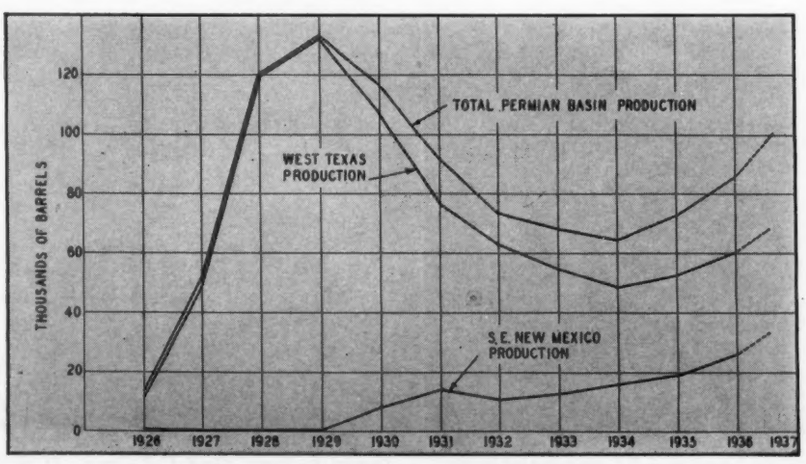
In the active development which is going on, new wells are being brought in in the Permian Basin at a rate of 75 to 90 per week. Although adjustments are made in per well allowables to absorb this added production, market demand and physical waste being considered, the high completion rate is forcing total production of the district upward.

Accumulated production of the Permian Basin June 1 totaled 957,472,493 bbls., of which 826,948,802 bbls. was recovered from fields on the Texas side of the line and 130,523,691 bbls. from those adjacent in New Mexico. Production for the first five months of this year totaled 45,209,305 bbls., which was 8,039,033 bbls. greater than the total for the five preceding months, and 10,424,025 bbls. more than that of the corresponding five months of 1936.

PERMIAN BASIN PRODUCTION BY YEARS

Year—	W. Texas (bbls.)	Southeast New Mexico (bbls.)	Total (bbls.)
Before 1923	79,380	.....	.....
1923	14,591	*	14,591
1924	1,507,456	81,800	1,589,256
1925	9,562,189	797,373	10,359,562
1926	14,971,805	1,097,373	16,069,178
1927	49,689,657	595,222	50,284,879
1928	120,632,993	509,763	121,142,756
1929	132,788,274	1,235,052	134,023,326
1930	107,759,964	9,308,026	117,067,990
1931	77,264,899	14,840,319	92,105,218
1932	63,508,071	11,187,606	74,695,677
1933	55,272,711	13,431,601	68,704,312
1934	49,704,065	16,061,937	65,766,002
1935	53,988,376	19,774,743	73,763,119
1936	60,329,065	26,268,877	86,597,942
1937†	29,875,306	15,333,999	45,209,305
Total	826,948,802	130,523,691	957,472,493

*No record; production included in 1924.
†First five months.



Permian Basin production—1927-1937

The total production for the first five months of 1937 included 29,875,306 bbls. from West Texas and 15,333,999 bbls. from New Mexico. The West Texas production was 4,595,281 bbls. greater than during the preceding five months and 5,103,982 bbls. more than for the corresponding first five months of 1936. The New Mexico production for this year was 3,446,043 bbls. more than that of the preceding five months and 5,310,043 bbls. greater than the recovery the corresponding five months of 1936.

At the present rate of daily production, discounting the possibility of further increases, production for the year 1937

will total more than 114,000,000 bbls., which will be the greatest production for any year since 1930, when the total was 117,067,990 bbls. During the peak year of 1929, a total of 134,023,326 bbls. was recovered, or only a little over 20,000,000 bbls. more than the estimated production for 1937.

The extent of the present production in the district, as reflected in the daily average for the week ended May 29, is indicated in the following table:

WEST TEXAS

	No. wells	Daily aver. prod.
Big Lake	218	7,203
North Cowden	135	8,000
Goldsmith-Cummins	105	6,350
Grand Falls-O'Brien	1,037	37,325
Hendrick	391	12,000
Howard-Glasscock	766	16,800
Iatan-East Howard	210	7,335
Penwell	147	6,150
Kermit	574	20.000
McCamey	620	14.195
Church-Fields-McElroy	415	12,500
Yates	534	30,620
Others	1,051	31,465
Total West Texas	6,203	209,963

SOUTHEAST NEW MEXICO

Cooper	87	7,000
Eunice	380	32,650
Hobbs	250	21,850
Maljamar	58	5,790
Monument	383	32,425
Others	402	11,630
Total Southeast N. Mexico	1,568	111,345
Total West Texas	6,203	209,963
Total Permian Basin	7,771	321,308

Sixteen separate fields in the district have produced more than 5,000,000 bbls. each, with a total production of more than 600,000,000 bbls. The list is topped with Hendricks in Winkler County, Texas, 130,000,000 bbls. Rating in the list are Church-Fields-McElroy, Crane County, Texas, 78,000,000 bbls.; Hobbs, N. Mex., 77,000,000 bbls.; Chalk-Roberts in Howard-Glasscock counties, Texas, and Big Lake, Reagan County, 76,000,000 bbls. each; McCamey, Crane-Upton counties, 53,000,000 bbls.; Grand Falls-O'Brien, Ward County, 25,000,000 bbls., and Eunice, Lea County, New Mexico; Pennwell, Ector County, Texas; Mitchell County, Texas; North Winkler County, Texas; Lea City and Texas Pacific, Jal and Cooper, Lea County, New Mexico; Wheat, Loving County, Texas, and Artesia, Eddy County, New Mexico, varying amounts from 17,000,000 bbls. down to 5,000,000.

Many fields in the district have rated potentials far in excess of current production, and, according to engineering reports, are capable of producing without physical waste substantially greater volumes of oil than have been or are being recovered. Through effectiveness with which production has been controlled, both under direction of the State Railroad Commission and by cooperation of the operators, production of the district reflects to a large extent proration allowables rather than the productive potentialities.

New Ethyl Standards

Ending a long period of laboratory and road tests, the Ethyl Gasoline Corp. has announced that effective September 1 Ethyl Gasoline must have an antiknock value of at least 78 octane number and effective October 1 the Q grade of gasoline sold by its licensees must not have an octane number above 72, each taken by a new method of test known as "L-3."

The test procedure follows that of the Motor Method except that the mixture temperature is 260° F.; the spark is automatically varied with the compression ratio after setting for 16° advance at 5 to 1 compression ratio; and the knock intensity is kept constant and equal to that obtained with a 65 octane number blend of A-5 and C-10 when tested at a compression ratio of 5.5 to 1 at a barometric pressure of 760 mm.

In announcing the change the corporation said:

"In attempting to arrive at a fair minimum for Ethyl and a fair maximum for "Q" treated gasolines we have been greatly aided by extensive surveys carried out by the Industries Committee; we also have carried out surveys.

"The facts shown by these surveys are, briefly: (1) That the average regular grade gasoline distributed throughout the country is 71.4 by the L-3 Method, (using the correct L-3 calibration curve), which means that 50 per cent of such gasoline is already better than 71.4 by that method; and, (2) that a substantial volume of regular grade gasoline, not exceeding 70 octane number by the Motor Method, rates as high as 72.5 by the L-3 Method, and individual samples as high as 74 octane number. From all the data presented we are convinced that no maximum octane number lower than 72 by the L-3 method can reasonably be established for regular grade leaded gasoline.

"Furthermore, in fixing this maximum on "Q" at 72 by the L-3 Method we are not unmindful of the fact that although 70 by the Motor Method as a maximum was fixed four years ago, nevertheless more than two years elapsed before a substantial amount of lead treated gasoline throughout the country was as high as 70, and even today a large proportion of the regular grade gasoline of our customers is still somewhat below 70. Therefore we anticipate that there will not be an immediate rush to put on sale this new allowable maximum. However, the option will enable those of our customers whose gasoline shows the least spread between the Motor Method and the L-3 Method (and thereby poorer correlation between laboratory testing and road performance) to improve the quality of their gasoline, if they so desire, to a point where it will be approximately comparable in quality, from an antiknock standpoint, to a very large volume of gasoline which is already being marketed.

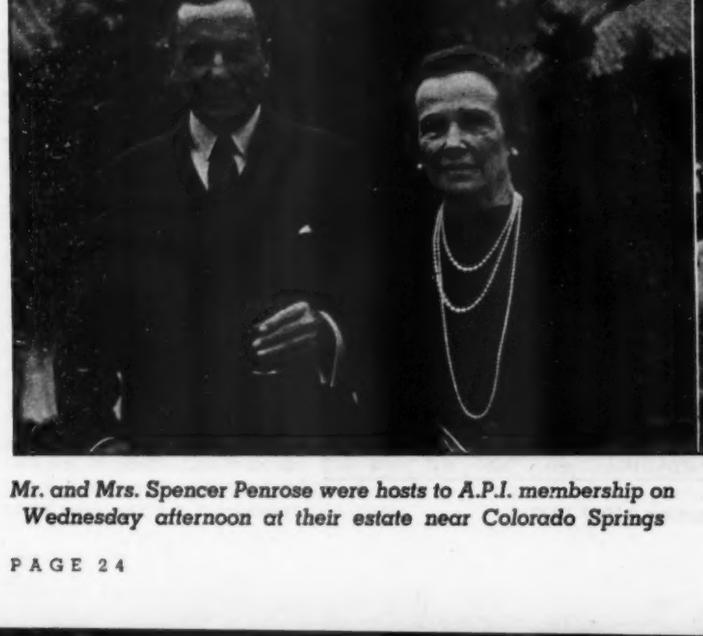
"With reference to Ethyl gasolines, the surveys show practically no case in which the octane number by the L-3 Method is not already in excess of 78 octane number. For this reason the minimum figure of 78 seems appropriate."

Diesel Use Increasing

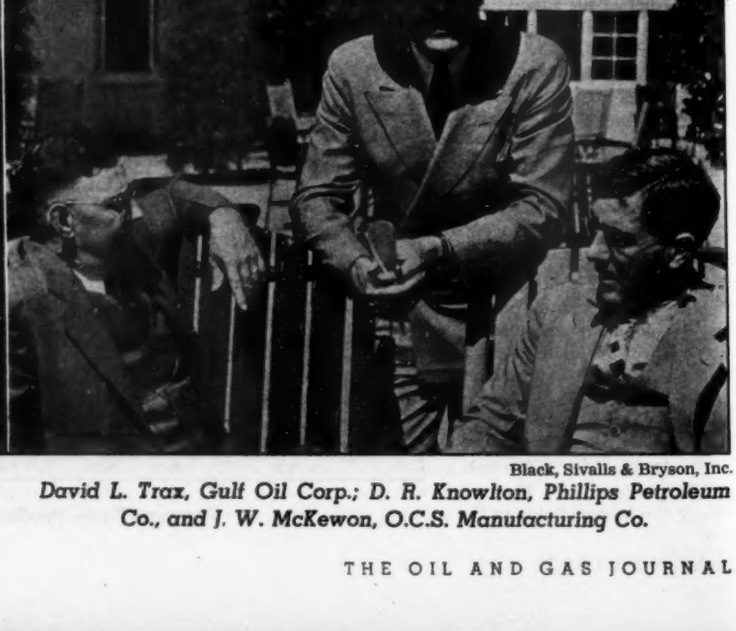
MUSKEGON, Mich.—The use of fuel or diesel oil for highway purposes in Michigan is showing a marked increase, attracting attention of gasoline tax division officials since they received the tax report for the first quarter of 1937. Records show an increase of 43 per cent in Michigan use of diesel fuels over the corresponding period last year.

In addition to an increase in the use of diesel oil power and an increase in commercial vehicle registration, it is reported a number of large motor transport concerns have been experimenting with its use, first recorded in Michigan to any extent in 1934.

At the A. P. I. Mid-Year Meeting



Mr. and Mrs. Spencer Penrose were hosts to A.P.I. membership on Wednesday afternoon at their estate near Colorado Springs



Black, Sivalls & Bryson, Inc.

David L. Trax, Gulf Oil Corp.; D. R. Knowlton, Phillips Petroleum Co., and J. W. McKewon, O.C.S. Manufacturing Co.

Oil Depletions Classified as Loop Holes in Tax Law

By L. G. E. BIGNELL

Companies and persons interested in the oil industry are gravely concerned over the message of President Roosevelt incorporating a letter from Henry Morgenthau, Jr., secretary of the treasury, dealing with so-called "tax evasion" and "moral fraud" on the part of a few individuals and corporations selected by Mr. Morgenthau as "disclosed by a quick check of comparatively few individual returns." Most of the large corporation returns had not been filed when Mr. Morgenthau wrote his letter but he states "nevertheless, it is likely that the cases I have disclosed above are symptomatic of a large number of others, which will be disclosed by the usual careful audit."

Percentage Depletion

This incident is of interest to the oil industry because Mr. Morgenthau attacks the percentage depletion provision of the 1936 tax law and brings attention to it by stating: "In addition to these cases of moral fraud, there are three other major instances in which the law itself permits individuals and corporations to avoid their equitable share of the tax burden.

"Percentage depletion.

"This is perhaps the most glaring loophole in our present revenue law. Since 1927 large oil and mining corporations have been entitled to deduct from 5 to 27½ per cent of their gross income as an allowance for the depletion of their mines or wells, and the deduction may be taken even though the cost of the property has been completely recovered. . . . . I recommended in 1933 that this provision be eliminated but nothing was done at that time; and it has since remained unchanged."

The statute to which Mr. Morgenthau refers will be found in Chapter 4 of the Revenue Laws of 1936 under the head of Deductions from Gross Incomes. It reads as follows:

"Art. 23(m)—4. Computation of depletion based on a percentage of income in the case of oil and gas wells. Under section 114 (b) (3), in the case of oil and gas wells, a taxpayer may deduct for depletion an amount equal to 27½ per cent of the gross income from the property during the taxable year, but such deduction shall not exceed 50 per cent of the net income of the taxpayer (computed without allowance for depletion) from the property. [For definition of 'gross income from the property' and 'net income of the taxpayer (computed without allowance for depletion) from the property,' see article 23 (m)—1 (g) and (h).] In no case shall the deduction computed under this article be less than it would be if computed upon the cost or other basis of the property provided in section 113."

The reference given above to "depletion" states "in computing net income there shall be allowed as deductions:

"(m) Depletion: In the case of mines, oil and gas wells, other natural deposits, and timbers, a reasonable allowance for depletion and for depreciation of improvements, according to the peculiar conditions in each case; such reasonable allowance in all cases to be made under rules and regulations to be prescribed by the commissioner, with the approval of the secretary. In any case in which it is ascertained as a result of operations or of development work that the recoverable units are greater or less than the prior estimates thereof, then such prior estimates (but not the basis for depletion) shall be revised and the allowance under this subsection for subsequent taxable years shall be based upon such revised estimate. In the case of leases the deductions shall be equitably apportioned between the income beneficiaties and the trustee in accordance with the pertinent provisions of the instrument creating the trust, or, in the absence of such provisions, on the basis of the trust income allocable to each."

In submitting Secretary Morgenthau's letter to congress the president recommended an immediate investigation to develop information to permit congress "to enact legislation at this session specifically and exclusively aimed at making the present tax structure evasion-proof."

The president also states: "I have already suggested to the congress that at this session there should be no new taxes and no changes of rates. And I indicated to the congress that the treasury will be prepared by next November to present to the appropriate committees information on the basis of which the congress may, if it chooses, undertake revisions of the tax structure.

"I am confident also that the congress will give to the treasury all authority necessary to expand and complete the present preliminary investigation, including, of course, full authority to summon witnesses and compel their testimony. The ramifications and the geographical scope of the complete investigation make it necessary to utilize every power of government which can contribute to the end desired."

Congressional Action

Whether congress will attempt during this session to enact new laws to discontinue the present depletion allowance granted the petroleum industry is a difficult question to answer. However, a joint resolution, S. J. Res. 155 introduced by Senator Pat Harrison of Mississippi, creating a Joint Congressional Committee on Tax Evasion and Avoidance, has been passed by the senate and referred to the committee on rules in the house and by that committee referred to the house committee of the whole which will give the committee authority to conduct investigations of so-called "loop-holes" in the tax structure up to February 1, 1938.

In the house a number of objections were raised to the bill as it came from the senate. The section granting treasury employes power to conduct investigations under authorization of the committee was stricken out and the bill further amended to require the committee to report information to the House Committee on Ways and Means and to the Senate Committee on Finance, instead of merely giving the committee the right to do so.

On July 12, 1909, an amendment to the constitution giving congress power "to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several states, and without regard to any census or enumerations," was submitted to the states by congress. On February 25, 1913, the amendment was declared adopted, the necessary two-thirds of the states having ratified it, and a law taxing incomes was incorporated in the tariff act of October 3, 1913.

Since then the law has been changed several times and the problem of equitable depletion has been the subject of much debate and consideration. A depletion has been defined as a return of capital invested in natural resources; through the gradual exhaustion of the quantity or units in the ground; or, in the words of the treasury department, "depletion is the loss sustained through the progressive removal of natural resources, as of mineral deposits."

Morgenthau Recommends

"Legislation should be passed at this session of the congress in order to eliminate these loopholes which our preliminary investigation has proved; and that as a result of the further investigation this summer and autumn the next session of the congress should finally close any further loopholes which may be discovered."

Madison Court Delivers Rulings Upon Pleas of Defendants

MADISON, Wis.—Marathon Oil Co. of Tulsa, and Tide Water Oil Co. of New York were dismissed as defendants in the government's antitrust cases against major representatives of the industry in decisions filed by Federal Judge Patrick T. Stone here June 3.

Marathon was dissolved on July 31, 1936, had surrendered its corporate franchise to the state of West Virginia and was not in existence when an indictment named it as a defendant on November 6, the court noted. Another decision released Tide Water from all indictments because of its corporate dissolution on September 4.

The court refused, however, to quash warrants against five officials of the two companies. L. B. McCammon, Tulsa, sales manager of Marathon, J. W. Warner and R. O. Audrain, Tulsa. Edward L. Shea and Noel Robinson, New York, officers of Tide Water, remain as defendants.

Motions of defendant individuals and companies for bills of particulars on ground that the indictments fail to contain sufficient information and facts to inform them of what they will have to meet on trial were granted in part and denied in part. The motion of W. C. Platt and his publications, was denied in its entirety, the court holding the indictment charging conspiracy to maintain artificially raised market prices on gasoline with the aid of the trade publications was clear and specific as to the offense charged.

Jude Stone granted 8 out of approximately 60 demands for particulars submitted by 21 defendant corporations and 7 out of an equivalent number filed by 44 individuals. He also partly granted and partly denied supplemental motions on behalf of Shell Petroleum Corp., Gulf Oil and Gulf Refining, Alexander Fraser and P. E. Lakin, St. Louis, president and sales manager respectively of Shell, and of C. M. Boggs, Arkansas City, Kan., president, and A. V. Bourque, Tulsa, secretary of the Western Petroleum Refiners Association.

In all cases the court made the reservation that the government's proof shall not be limited to the answers made by it to the demands for particulars if, during the trial, it appears that in the interest of justice the proof should not be so limited.

Directing that the government furnish the particulars specified within 40 days, Judge Stone decreed further that so far as briefs on behalf of the government contain answers to certain specific demands of the defendants they shall be regarded as if made pursuant to the court's order.

In its denials the court pointed out that "much of the information requested in the motion for a bill of particulars is within the knowledge of the defendants and is found in the records and documents of the defendants which were produced upon the subpoena of the government for use before the grand jury and which have been returned to the defendants and are now in their possession, and that upon the motion of said defendants, the witnesses who appeared and testified before the grand jury were released from the oath of secrecy which they took before testifying before said grand jury, although such oath of secrecy was administered in accordance with the long established custom and practice obtaining in this district, and that the defendants now have as much liberty in respect to discussing and conferring with said witnesses as they would have had had not the oath of secrecy been taken."

Stanolind Purchase

DALLAS, Tex.—Stanolind Oil & Gas Co. is reported to have purchased for $1,125,000 properties of South Gulf Oil Corp. in the Conroe, East Texas and Hastings fields.

Included are an interest in 10 wells, 4 of them full interest and 6, half interest, in East Texas, including leases in the Hooper, Van Winkle and Castleberry surveys.

Partial interest in five wells and full interest in five more wells in Conroe were bought, and also South Gulf's 10-acre lease at Hastings, with one producer.

Not included were the Fogelson holdings in Saxet field, Nueces County, with 40 wells. These are operated as Morgan-Gulf Oil Co.

Tideland Drilling Laws

LOS ANGELES, Calif., June 7.—The California legislature, in addition to imposing a road tax on diesel fuel when used instead of gasoline, passed three tideland bills applying to offshore drilling in Huntington Beach. The bill of Senator Olson, which provides for development of the submerged section of the Huntington Beach field by means of piers, groins or islands, passed with an emergency clause and was signed by Governor Merriam. The legislature also passed the Welsh tideland drilling measure and a similar bill introduced by Senator O'Donnell which provides that a committee pass on the qualifications of bidders for one or more of the 11 parcels provided in the Olson bill which extend into the ocean at right angles to the shore. If the littoral landowner is the successful bidder, the governor's permission in addition to that of the commission must be obtained before a contract can be granted. Royalty to the state under the bill is fixed at 30 per cent on wells producing from 200 to 1,000 bbls. daily; 40 per cent on wells producing from 1,000 to 2,000 bbls. per day and 50 per cent on wells producing in excess of 2,000 bbls. daily.

Fire and Safety Marshals

The twelfth annual meeting of the Fire and Safety Marshals will be held at Bradford, Pa., June 16 and 17. The first day's program at the Y.M.C.A. will consist of talks, beginning at 2 p.m. after registration at 1 p.m. The second day program will be held at the Bradford Country Club. Round table discussion will begin at 10 a.m.; led by Roy Gettings of Hyvis Oils, Inc. Following there will be a business meeting, and the annual luncheon.

The event of Thursday afternoon is the first aid contest. Nine teams are expected to participate. The team of James B. Berry Sons' Co., Inc., of the Quaker State Oil Refining Corp., is defending champion.

Texas Proration Hearing

AUSTIN, Tex.—A statewide hearing to determine allowables for July has been ordered by the Railroad Commission for June 18. A supplemental hearing will be conducted on the sour gas law for the Panhandle.

Oil purchase nominations were requested for the last six months of the year. Definite nominations were requested for July with forecasts of requirements permitted for August, September, October, November and December.

THE MARKETS*

CRUDE OIL: *A 15-cent advance in all grades of Pennsylvania crudes on Monday established a top price for the best grades of $2.82, the highest posted schedule since 1930. The increase reflects a strong market for Pennsylvania Grade lubricants with a peak demand assured for the summer months. Still higher prices are predicted. Crude prices in other areas were steady, with sellers closely watching developments to follow the expected decline in June production through lower state allowables.*

REFINERY: *Lubricating oils and wax strong. Movement of motor fuels to consumer outlets continues to expand. Sellers are hopeful that this month will bring higher quotations in tankcar and retail markets.*

TANK-WAGON AND SERVICE STATION: *Scattered price-cutting is reported in several areas with declines in most cases confined to third grades. Gasoline tax evasion said to be factor in these low price markets.*

FINANCIAL: *Volume of common stock sales declined with price fluctuations about the same as the previous week. Average of 30 representative stocks for week ending June 5: High, 40.97; low, 39.59; close, 40.57. Week ending May 28: High, 41.67; low, 40.47; close, 40.97.*

**Detailed information in market section.*

Stripper Well Meeting

William Bell, president of the National Stripper Well Association, which will hold its annual meeting in Tulsa, June 17, says the legislation proposed for maximum hours of labor and minimum wages is a most important subject for discussion and consideration by the delegates. He said if such legislation is passed and no provision is made for the protection of stripper well properties, a serious problem will exist.

National Oil Scouts Program

The National Oil Scouts Association of America is to hold its thirteenth annual convention in the Baker Hotel in Dallas on June 25 and 26, when several hundred scouts from Kansas, Oklahoma, Texas, New Mexico, Louisiana and Arkansas will assemble. The Texas Pan American Association has dedicated Friday, June 25, as Natural Oil Scouts Day to honor the "Eyes and Ears of the Oil Industry."

The program outlined by the executive committee follows:

Friday, June 25, 9:30 a.m.—Welcome by Ben Crites, president, Dallas Chamber of Commerce.

Opening address by W. R. Boyd, Jr., executive vice president, American Petroleum Institute.

Paper by Bruce Barkis, Lane-Wells Co. of Texas, "Recovery Cased-Off Production and Its Effect on National Oil Reserves," with lantern slides.

Saturday, June 26, 9:45 a.m.—Paper by E. F. Stratton, "Water Flow Location by Means of Photo-Electric Survey." Paper by James D. Hughes, Eastman Oil Well Survey Co., "Directional Drilling."

2:30 p.m.—Business meeting and election of officers.

Mississippi Sound

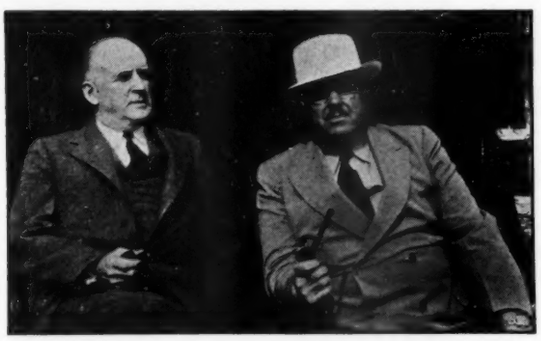
JACKSON, Miss.—The State Mineral Lease Commission adjourned its hearing on a proposal to lease the Mississippi sound for oil and gas development without taking any action. Governor Hugh White, chairman of the commission, indicated no immediate decision was to be expected.

Optimistic View on Last Half of Year at Meeting of A.P.I.

By C. O. WILLSON

COLORADO SPRINGS, June 4.—Oil men who were leaving here today after attending the sessions of the mid-year meeting of the American Petroleum Institute were optimistic regarding probable developments over the remainder of the year.

While the semiannual gathering was devoted principally to sessions of technical groups and committees, many of the members coming from all parts of the oil country, took advantage of the opportunity to exchange views regarding general conditions in the industry with special interest manifested regarding trends the second half of the year.



Fayette B. Dow, vice president, and Joseph E. Moorehead, executive secretary of the Pennsylvania Grade Crude Oil Association

A majority apparently feel that the long continued additions to crude stocks will end this month. They point to the assured increase in demand and the plans of several states to keep current output within the estimated requirements.

Another reason for the good feeling was the larger-than-expected increase in motor fuel demand so far this year. Statisticians who in December and January were predicting 7 to 8.5 per cent gains in domestic motor fuel demand this year, are revising their estimates upward in many cases to more than 10 per cent. Peak motor fuel registrations, continued heavy car production of new cars, and more leisure and money for motoring were emphasized by those who foresee continued good times for those who produce and refine crude oil.

Outstanding in the committee activities was the progress reported by the A.P.I. well spacing committee. This program of perfecting a practical plan of ending the drilling of wells not needed to assure efficient recovery of crude from the producing horizons, is considered necessary to assure permanent stabilization in the industry. The plan, which will be offered in its final form later, is to be incorporated as part of the conservation programs of the oil states.

Among refiners there was considerable discussion regarding the revised antiknock method of testing for motor fuels announced by the Ethyl Gasoline Corp. to be effective September 1. This revision, which has been under consideration for some time, has been opposed by many refiners. In effect, it will mean increasing the antiknock properties of many regular and premium grades of gasolines either by refinery processing or the use of additional tetraethyl lead.

The increasing seriousness of the tendency to divert gasoline tax collections to uses other than road building, was brought to the attention of the oil industry and consumers by directors of the Institute who held a meeting here.

In a formal resolution the directors called upon the governors of states to further safety, relieve unemployment and promote prosperity by restricting the use of gasoline tax funds to road construction and maintenance. The action of the board of directors was taken after data were presented showing the widening tendency not only to increase tax rates but also divert larger percentages of the tax funds to uses which have nothing to do with road construction. The point was stressed that with an increasing number of cars on the highways, public safety demands that gasoline tax funds be used in the development of safe highways.

Closely allied with this action was the adoption of a recommendation of the American Petroleum Industries Committee calling for the separate postings of gasoline prices and taxes at service stations. The adopted recommendations of the A.P.I.C. specify separate postings of prices and taxes at filling stations, and in statements and bills "so that consumers may appreciate the difference between the price of gasoline, which is the amount of money they are asked to exchange for a gallon, and the cost of gasoline, which is the price plus taxes as may be imposed."

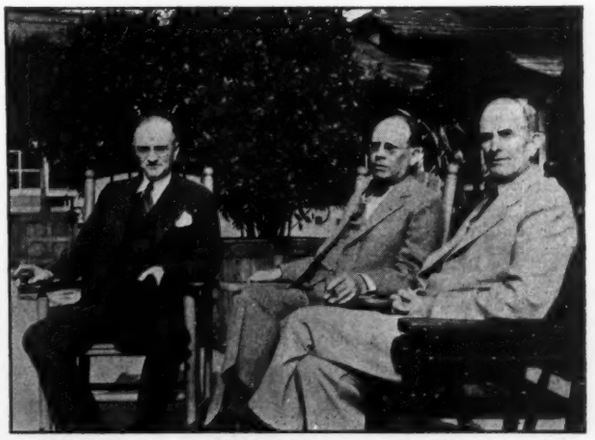
The action was taken by the board to again emphasize to the consuming public and the oil industry generally the seriousness of the gasoline tax situation. While additions in gasoline tax rates have not been as general as they were a few years ago there have been a few advances over the past two years, and with increased consumption, the tax revenue is increasing in all states. The large funds available have proved a strong temptation to legislatures, which in several states have increased the amounts diverted to uses other than road construction. At the same time, with more motor vehicles in service, there is greater need than ever before that all the funds available be used in road construction and maintenance.

W. G. Ainsley, Sinclair Refining Co.; H. M. Trimble, Phillips Petroleum Co., and Dr. A. E. Becker, Standard Oil Development Co.

Committee Meetings

A large number of meetings of committees and subcommittees which carry on many special activities of the institute were held here during the semiannual meeting. In most cases the committees did not make any final recommendations in connection with the work they are doing.

The board of directors authorized an expenditure of $3,000 to cover the cost of employing an observor representing consumers in connection with a new series of tests of two types of threads used in tubular goods employed in deep-well drilling operations. This action was recommended by the general committee of the Division of Production following an investigation by a subcommittee. The tests are to be made at Pittsburgh. An expenditure was also approved to cover part of the costs of observing tests already completed at Pittsburgh. The new series of tests will cover present rounded



John McFadyen, vice president The Ohio Oil Co.; O. D. Donnell, president The Ohio Oil Co., and W. H. Ferguson, vice president Continental Oil Co.

threads used on drill pipe and a modification of the present sharp v-threads used on various tubular goods.

Wide interest was apparent among both users and manufacturers in regard to pipe specifications. The greater drilling depths have brought demands from users for pipe meeting the new operating conditions. Manufacturers have indicated their desire to meet all requirements as soon as users have definitely determined what they want. Certain phases of this investigation will continue a year or more.

Prof. H. W. Best, Yale University; Earl Bartholomew, Ethyl Gasoline Corp., and J. M. Campbell, General Motors Research Corp.

In the refining division, an appropriation is sought to carry on experiments with a gravity type separator. It is anticipated that a portable model will be built which can be transported to different parts of the country to work on various types of wastes. The test will cover a type of separator adapted from those used in sewage applications.

It was announced at the meeting that the executive committee of institute has authorized an appropriation to cover the cost of a handbook which will include data on known methods of combating corrosion. The work will be in charge of Joseph A. Jamison, chemical engineer.

Resolutions

The board of directors at their meeting yesterday adopted resolutions in memoriam expressing the sorrow of the industry in the deaths of Mark L. Requa on March 6 and John D. Rockefeller on May 23. The resolution in the case of Mr. Requa pointed to his work as director of the Oil Division of the United States Fuel Administration during the World War. Mr. Requa was a member of the board of directors of the Institute for nine years, resigning in 1929.

The resolution in memoriam calls attention to the fact that Mr. Requa in 1929 served as "chairman of the National and State Conference, called by President Hoover to discuss and formulate a practical program for the conservation of America's natural resources, held in Colorado Springs, Colo., and in 1931 organized California oil producers for curtailment of over-production."

The resolution in the case of Mr. Rockefeller emphasized the importance of the $250,000 gift in 1926 which aided in financing a "five-year program of fundamental research in petroleum designed to make available to the entire industry scientific knowledge necessary to the advancement of petroleum arts and sciences, and so gave impetus to the technical research which since has been a continuing activity within the industry."

The board adopted a resolution expressing sympathy to East Texas families bereaved by the destruction of the New London School on March 18. The resolution also expressed the industry's thanks to oil companies and employes who gave time and funds to relieve suffering at the time of the disaster.

Drake Memorial Park

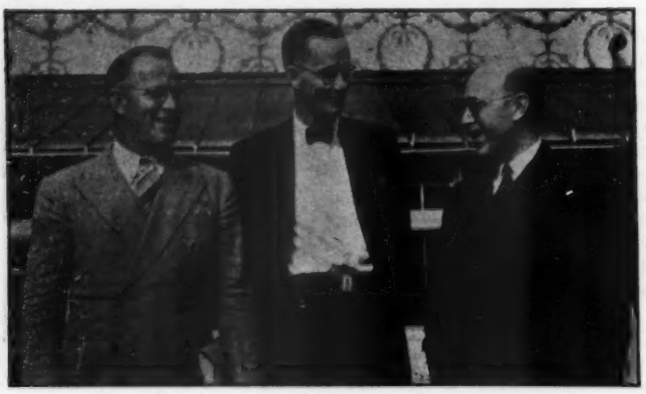
The directors voted to deed to the Commonwealth of Pennsylvania, 17 acres of land adjoining the Drake Well Memorial Park near Titusville, Pa. The additional land which was given to the Institute by the former State Senator N. V. V. Franchot of Olean N. Y., will be used to double the size of the park established several years ago to commemorate the first commercial producing well completed by Colonel Drake in 1859.

Robert H. Colley, newly elected president of the Atlantic Refining Co., was elected a member of the board of directors to succeed W. M. Irish who recently retired as president of the company.

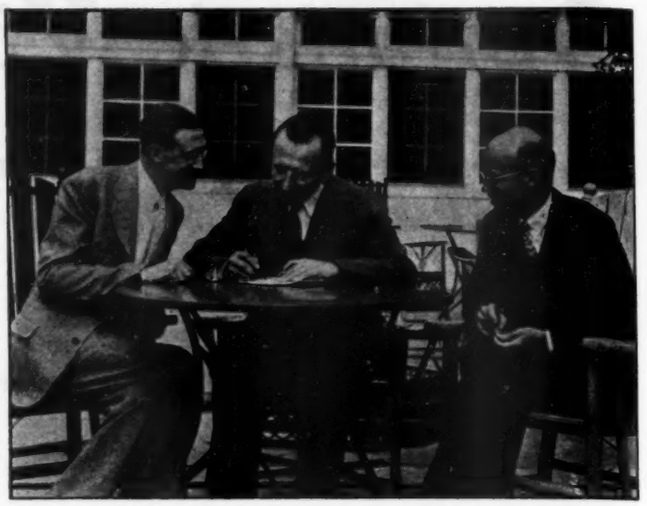
The directors approved the recommendation of the Committee on Contracted Ratios of Standard Weights and Measures submitted by the chairman, Dr. L. C. Beard of Socony-Vacuum Oil Co., Inc., for the purpose of standardizing between nations, the measurements used by the petroleum industry in international trade and commerce.

The board also approved a recommendation of the general committee on refining which provided for a special committee to study the problem of rating capacities of refineries. It is thought that a method of reporting refinery capacities can be devised which will be an improvement over the existing practice of rating plants based largely on crude oil capacities. This special committee will report at the annual meeting in November.

Axtell J. Byles, president of the Institute presided at the meeting which was attended by 20 members.



C. W. Fromme, Union Oil Co.; H. N. Marsh, General Petroleum Corp., and B. B. Wescott, Gulf Oil Corp.



Ludlow Clayden, Sun Oil Co.; Dr. A. Kremser, Standard Oil Co. of California, and Dr. H. D. Wilde, Jr., Humble Oil & Refining Co.

One hundred golfers participated in the tournament held today on the Broadmoor course. The "J. Edgar Pew Trophy" was the special prize sought by those who took part in the handicap tournament. E. L. Smith, independent producer of Mexia, Tex., had the lowest net score.

J. D. McClure, Barnsdall Oil Corp., and H. W. Osborne, geologist

John R. Suman, vice president of the Humble Oil & Refining Co. presided at the dinner tonight at which the names of the winners of several prizes were announced.

Ohio Penna. Producers

The sixth annual meeting of the Ohio Pennsylvania Grade Oil Producers' Association will be held at the Marietta, Ohio, Court House Auditorium, Friday, June 18, at 2 p.m., followed by a 6 o'clock fellowship supper at the Hotel Lafayette. Outstanding speakers will discuss pertinent problems and policies and future activities.

Petroleum Chemists

The Bureau of Mines at Bartlesville, Okla., will hold open house for the petroleum group of the Oklahoma section of the American Chemical Society on Saturday, June 12, the last meeting of the chemists until fall. Dr. Robert E. Burk of Western Reserve University, will speak on "Observations on the Polymerization of Hydrocarbons."

(1) Seldovia, Alaska. (2) Crews leaving for winter shutdown. (3) Cement and drilling mud stored at wildcat. (4) Crew on location: Rear—Homer Havenstrite, drilling superintendent; William G. Ahrens; Fred Munsen; John Woodman, and F. M. Anderson, driller. Front—Richard Kerr, petroleum engineer, and Sig Benson

Preparing to Resume Drilling in Alaska After Winter Shutdown

Alaska has yielded gold and other minerals, fish and furs, timber and agricultural products valued at many billions since its purchase from Russia in 1867 for $7,200,000; and now it is deemed likely the territory will be placed among the notable oil-producing regions during the coming warm months. This at least is the opinion held by executives of the Iniskin Drilling Co. who are making preparations to resume drilling on their wildcat 170 miles southwest of Anchorage on the eastern side of the Alaskan Peninsula. It has been shut down since last fall.

The Iniskin company offers as reason for its optimism that surface indications on its 58,000-acre lease are similar to those which led to many of the early California discoveries. The test is equipped with the latest types of rotary drilling tools. Last year the drilling of 2,540 feet of hole in two months was accomplished with a large unavoidable cash outlay, since a 3,500-ton ship had to be purchased to transport equipment from California, a 6-mile road had to be built from the coastline of Cook Inlet to the well site, and all equipment had to be hauled by tractors into the location. Even after the winter shutdown troubles and expenses were not at an end. Due to the maritime strike at that time great difficulty and much delay was encountered in getting the drilling crews home for the winter, and this single item incurred an expenditure of about $15,000.

Alaska has never produced oil on an important scale. Although it is a territory more than twice the size of Texas, its total production has been less than 200,000 bbls. Practically all of the little development work which has taken place has been in the vicinity of Katalla in south-central Alaska, and this district has been idle for several years, both in regard to drilling and production. Two other areas are notable for favorable oil signs, such as oil and gas seepages and thick deposition of sediments. One is just east of Point Barrow on the extreme northern tip of Alaska where there has been no development because of the climate. The other is along the eastern coast of the Alaskan Peninsula, where the Iniskin wildcat is located.

Here there had been some previous exploratory work before location of the wildcat. Oil and gas seeps are quite common in the area, and some have been known for 70 years or more. One seep is 150 yards from the well site selected. At another point a well drilled to 900 feet in 1901 is still seeping a small quantity of oil and water. There are other old shallow wells near at hand, some credited with production of 50 bbls. per day by U.S.G.S. reports. Shortly after 1920, when the passage of the oil-land leasing act caused increased interest in this and other areas, a test was drilled to more than 5,000 feet on a structure near Cold Bay. It was unsuccessful, but since it was about 160 miles southwest of the present test its indications are of little importance.

The surface geological survey which led to locating this test is said to have disclosed the presence of a definite anticline about 12 miles long, the crest of which approximately bisects the Iniskin Peninsula, a small peninsula protruding from the Alaskan Peninsula into Cook Inlet. The surface rock is of Jurassic age, and it is believed the Mesozoic sediments extend to a great depth. The wildcatters hope to penetrate strata favorable for oil accumulation at about 5,000 feet.

The present drilling is the result of a trip to the Iniskin Peninsula made by R. E. Havenstrite, president of California Western Oil Co., and Carl H. Beal, of the Kettleman North Dome Association, in 1932. In the summer of 1934 they sent a party of geologists into the area for a more thorough study. Since then, leasing of the government land, organization of the exploration company, planning, and other preparations have been in progress. Directors include S. B. Mosher, president of Signal Oil Co.; Hal Roach, cinema producer; Neil McCarthy, Los Angeles attorney, and Mr. Havenstrite and Mr. Beal. William Ahrens is secretary-treas-

(1) Tractor sledding fuel oil to boiler house. (2) Muddy scene at Alaska wildcat. (3) Cordova, Alaska, where crews were stranded three months by maritime strike

urer and Homer Havenstrite is drilling superintendent.

Last spring the Alaskan adventure started with the purchase of the 3,500-ton coastwise steamer "Doyleston" renamed "Iniskin." This freighter was equipped at Wilmington harbor with practically all of the items used in modern rotary drilling including a 122-foot dismantled steel derrick, three 90-horsepower boilers, steam engines, drawworks, rotary table, 32,000 feet of various sized drill pipe and casing, 200 tons of drilling mud in sacks, $17,000 worth of rock bits, complete formation-testing equipment, core barrels, and two 6,000-pound-test blowout preventers. For firing boilers 11,000 bbls. of fuel oil were taken aboard. A 25-ton lighter was purchased for transporting equipment from the freighter to the shore, since no docking facilities are available on the Alaskan Coast adjacent to the well location, and it had been noted the ship would have to anchor about 5 miles offshore. Two tractors were also taken for use in road building and hauling equipment inland to the location. For operation of tractors, lighter, and small boats 10,000 gallons of gasoline and diesel oil were loaded. It was also necessary to take equipment for building camps and providing for the needs of the drilling crews and other workers. The freighter left with a crew of 29 men. The drilling crews were not sent north until preparations had been completed for commencement of their work.

The first summer's work progressed as planned. A road was built, the equipment was transported to the location, small camps were established at the site and on the coastline 6 miles away. Drilling was found to be difficult, the section penetrated consisting almost entirely of hard strata. A surface string was set at 337 feet, the only casing in the hole at present, although a depth of 2,540 feet has been reached. While no production has been encountered, executives of the company state no unfavorable signs have so far appeared.

After unloading, the Iniskin returned to Seattle where it was sold. When the well's drilling was discontinued for the winter, the shipping strike made it necessary for the company to seek out of the ordinary means of getting their men back from Alaska. This was accomplished with much delay by use of private seaplanes and the United States Coast Guard.

Early in May this year preparations were started to resume drilling on the Iniskin test. Since more fuel oil was needed at the location for firing boilers, the "Commodore," a 233-foot sailing vessel, was purchased and used as a barge to carry 5,000 drums of oil. It was towed to the Iniskin Peninsula by a 1,200-horsepower tug. When this shipment arrived carrying men for unloading and transporting the oil to the location, it was discovered that 5 feet of snow remained on the ground. The ship has now been unloaded, but the road is impassable. As soon as the weather will permit, the oil will be delivered to the site, and when this is accomplished the drilling crews will be sent north to resume work. Seaplanes will be used to transfer the crews from Seward to the Iniskin Peninsula. It is hoped the first well will be completed this year.

While the out of the way location of the wildcat has been the cause of great expense in getting supplies to the well, it is believed its location will not prove disadvantageous in case commercial production is developed. Construction of a 6-mile pipe line, with some submarine lines and a breakwater, will make it possible to load tankers in Cook Inlet. The market for oil in Alaska and the northwestern provinces of Canada is nearly $5,000,000 annually, and is expected to increase with the establishment of the United States government naval base in the Aleutian Islands and the aviation base at Fairbanks. Alaskan shipping requires an average of 5,000 to 6,000 bbls. of fuel oil per round trip from Seattle, and also, the well site is not very distant from the route between Seattle and the Orient. The development of these markets, however, would necessitate installation of refining facilities of some kind, but it is expected if the Iniskin Drilling Co. is rewarded with success in its present undertaking it will not hesitate to enter other branches of the petroleum industry in Alaska.

New tanker Gulftide, recently placed in operation by Gulf Oil Corp., lifted her first cargo from the docks of Gulf Refining Co. in Port Arthur, Tex.

Overproduction More of Threat Than Actuality, Says Farish

NEW YORK.—In retiring as chief executive officer of the Standard Oil Co. (New Jersey), W. C. Teagle said he had remained president much longer than contemplated when he was elected 20 years ago. He explained that Mr. Farish who was elected a director in 1927 and chairman of the board in 1933, had become familiar with all the problems and ramifications of the company's business and this was an opportune time to transfer the presidency to him. Mr. Teagle added he had carried the burden of responsibility long enough and wanted more freedom for special work.

"Mr. Teagle's relinquishment of the presidency means no change in policy," Mr. Farish said. "We worked together for many years and I am pleased to be able to say in all sincerity that there has never developed any serious difference of opinion between us. Sometimes he thought my view was wrong and convinced me that another route might be better, and again sometimes I thought his recommendation less likely to produce desired results than mine and so persuaded him. On principles, we have always agreed."

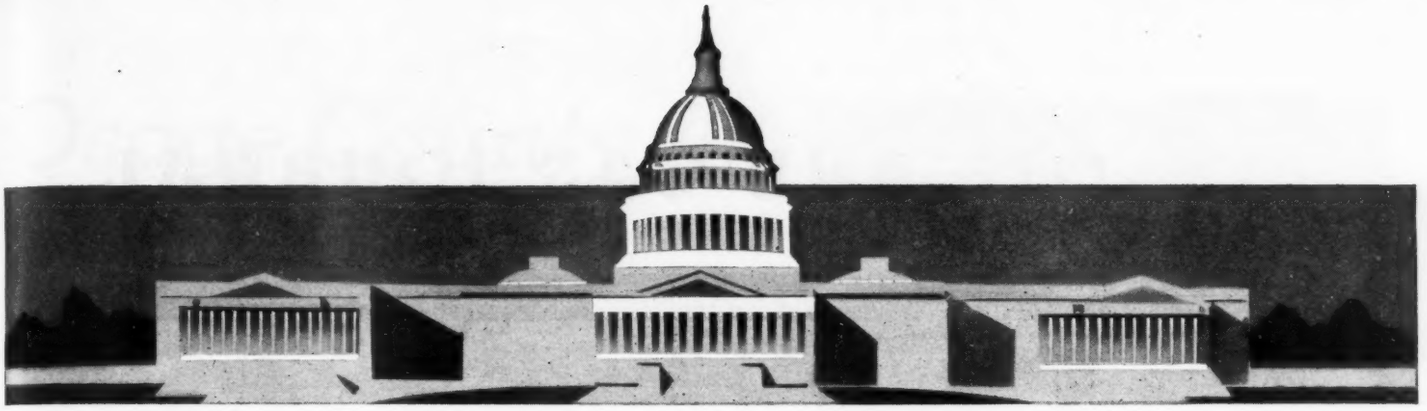
Reviewing the growth of the company since he assumed the presidency in 1917, Mr. Teagle said:

"The basis of our business is crude oil. In the year preceding my election our interests produced 9,658,000 bbls. In the year for which you have just had a report, our production was 206,356,000 bbls. In 1916 our share of the total world production was less than 2 per cent. Last year it was 11.5 per cent. In 1916 our total refinery runs, both domestic and foreign, was 46,827,000 bbls. Last year the comparable figure was 271,096,000 bbls., an increase of about six times over the amount refined 20 years ago.

Replying to a stockholder Mr. Farish said overproduction of crude at present was more of a threat than an actuality. More than 18,000,000 bbls. of crude has been run to storage since the beginning of the year, but he was of the opinion most of the companies which had stored that oil were glad to have it because their stocks had been depleted to where the refineries did not have enough elasticity in operations. Such was the case with Standard of New Jersey. "I do not know of anyone in the industry who visualizes a breakdown of regulatory control of crude oil production, at least for any permanent length of time," Mr. Farish said. "The control states cannot permit it from an economic point of view. They may have some temporary upset, but a serious breakdown, I think, is out of the question entirely."

New Ness County Well

Newton Development Co. has 3,400 feet of oil in the hole in its wildcat in Ness County, western Kansas, a mile and a half southwest and a mile and a half southeast of two wells of Continental Oil Co. completed last year as oil wells. The Newton well is No. 1 Tenny, NW NW SE section 19-18-25w. It is at a total depth of 4,381½ feet. The Continental Oil Co. No. 1 Thompson, C E half E half SW section 13-18-26w, was good for 684 bbls. a day after an acid treatment at 4,447-62 feet and its No. 1 Moses in NE NE SE section 7-18-25w swabbed 210 bbls. the first day and 135 bbls. the second day from pay at 4,429-31 feet.



Administration Is on Offensive Again, Spurring Congress

By HENRY D. RALPH

WASHINGTON, D. C., June 7.—The New Deal is on the offensive again, driving forward to "advance the frontiers of social progress." Congress faces a summer of activity at full speed and under forced draft, working on a variety of measures concerned with national economic planning, regulation of business, assistance to the "depressed third" of the population, harassment of "economic royalists" and increases in the power of the federal government.

President Roosevelt still insists that congress enact his bill to streamline the judicial system in order to speed the disposition of cases, reduce interference by the courts with fulfillment of administration objectives, and permit appointment of additional federal and Supreme Court justices to apply the New Deal's interpretation to the constitution. But he is not insisting that the court reform bill take precedence over everything else, and as a result congress is trying to make up for months of virtual idleness by rushing preliminary consideration of a wide range of highly important measures of the greatest importance to business, including the fixing of wages and hours, plugging loopholes in the revenue laws, control of agricultural production and marketing, regulation of corporation bankruptcy and reorganization, national planning for flood control, extension of the government's electric power industry, federal subsidies for tenant farmers and city slum dwellers, and reorganization of the federal government in the interests of economy, closer regulation of business, and greater concentration of power in the executive.

President Roosevelt apparently feels that this is enough for congress to do in one summer, and after sending up two special messages in one week, dealing with tax evasion and water use planning, he announced that he intends to make no new proposals in the near future.

Excise Taxes

Extension of all expiring excise taxes for another two years beyond June 30 is probably the only revenue legislation which will be enacted this summer. The Doughton resolution for this extension was reported out by the house ways and means committee without holding any hearings, and all proposals for dropping or altering certain taxes were voted down on the ground that if any changes whatever are permitted the way will be open for drastic changes which might seriously affect the government revenue. Included in these taxes are the federal excises on gasoline, lubricating oils, tires and automobiles, transportation of oil by pipe line, import taxes on petroleum, coal and lumber, and the 3-cent letter postage rate. In spite of the pressure which may be brought by affected industries, it is expected that both house and senate will approve the continuation of all these taxes before their expiration date.

Connally Act

The question of whether the Connally "hot" oil act should be given a permanent or only a temporary extension beyond June 16 was laid before the senate through the action of the house last week in voting, 189 to 93, for an extension of only two years. Through a parliamentary maneuver the house first passed the Dies bill for a two-year extension and then substituted the language of this bill for that of the Connally bill which had already been passed by the senate to make the act permanent. Through this procedure it was up to the senate to decide whether to accept the amendments of the house or to send the bill to conference in an effort to evolve a compromise. Because of the attitude in the house it was not expected that body would recede from its insistence of only a two-year extension of the law. No serious effort was made during debate in the house to extend the law beyond the two-year period recommended by the committee on interstate and foreign commerce.

Debate followed customary lines, with representatives from oil-producing states and members of the committee supporting it as an aid to conservation and orderly production, and representatives from a number of oil-consuming states attacking it on the ground that it increases prices of petroleum products to consumers and is prejudicial to the interests of independent jobbers and dealers. Two amendments were offered by Representative Fred Biermann of Iowa but both were ruled out of order. One would have prohibited marketing of oil products by any person or corporation engaged in producing, refining, or transporting oil, and the other would have repealed all tariff and import taxes on petroleum and its products.

Wage and Hour Legislation

Federal regulation of wages and hours will be enacted this summer if congress remains in session long enough, but this legislation will not be the Black-Connery bill as it now stands. Although the joint hearings of the house and senate labor committees have heard only a few witnesses so far, a considerable number of very troublesome questions have already arisen. One is the nature of the industries to be covered. While the drafters of the bill imply it is intended to cover only manufacturing industries and those producing or processing goods to be shipped in interstate commerce, some sections of the bill could be interpreted as giving the Labor Standards board the power to fix minimum wages and maximum hours for almost any type of industry or occupation. Ordinary retailing is presumed not to be covered, but retailing which in some way affects interstate commerce or the operation of retail outlets such as filling stations by companies engaged in interstate commerce might easily be brought within the scope of the bill. The protection of domestic producers against imports from countries having lower wage standards is another vexing problem. The administration prefers that the bill not deal with tariff problems, but the Connery draft, unlike the Black draft, contains language which could be construed as giving the Labor Standards board power to prevent the importation of goods manufactured under lower wage and hour standards than those prevailing in this country.

Geographical wage differentials are another of the serious problems confronting the committee. As the bill now stands, the board would have power to set different wages for various sections, but southern congressmen are insisting this be written into the law in definite terms, while some interests favor wiping out geographical differentials entirely. Organized labor has already raised some doubts about part of the proposal, fearing the prestige of unions and power of collective bargaining may be impaired by existence of a federal agency having power to determine minimum wages and maximum hours.

In short, the Black-Connery bill, which was drafted by a group of the administration's brain-trusters, is so complicated and so vague in its language that many of the supporters of its objectives are having difficulty in deciding whether they can support the measure as written. As many more witnesses are still to be heard, it is evident a long and tortuous course lies ahead of this measure, and what its final form will be is anybody's guess.

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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No Evasion

It was unfortunate that President Roosevelt's tax loophole message created an impression that the oil industry is guilty of tax evasion and moral fraud, along with the owners of incorporated yachts and other tricks to avoid tax payment.

Actually, that section of Secretary Morgenthau's letter which the president quotes regarding oil depletion very explicitly states that the oil industry is not evading any tax law but simply observing it. The president, indeed, lays the issue at the door of congress, recalling that the administration's recommendation for elimination of the depletion clause from the revenue bill in 1934 was rejected by congress.

In fact, everything that is in Mr. Morgenthau's letter on depletion was brought before congress by the secretary of the treasury in 1934, even to the naive assertion that the depletion allowance is a subsidy to the industry. These arguments were convincingly answered at the time, as the refusal of congress to eliminate the section proves.

Depletion has been defined by the treasury itself as "the loss sustained through the progressive removal of natural resources." The percentage basis of depletion was adopted in the revenue act of 1926 in place of the discovery depletion clause which had been found unsatisfactory to both the government and the industry.

The change was made after exhaustive study resulting in the determination that an allowance of 27½ per cent of the gross income limited to 50 per cent of the net income was fair, reasonable, just and necessary if the industry were to be permitted to establish a reserve sufficient to take care of its capital requirements.

It was distinctly not a subsidy but a plain recognition of the exceptional hazards of the oil producing industry. It was acknowledgement that the producer must be allowed to set aside from the income from profitable wells a reserve for replacement of the oil removed adequate to cover future unprofitable ventures and the other contingencies peculiar to the oil industry.

As to the percentage, the report of the Tariff Commission on the cost of producing oil between 1927-1930 was illuminating. Table No. 19 on page 33 of Report 30 shows leasehold depletion of 11 cents per barrel and depletion for intangible development costs of 23 cents, or a total cost depletion of 34 cents per barrel. This is equivalent to 27.8 per cent of the average selling price at the well during that period. Cost depletion which was only 34 per cent of the selling price was obviously insufficient to replace the oil produced.

In a manufacturing industry the taxpayer purchases an inventory of raw material which is consumed in manufacturing but he creates a charge to expense to replace that inventory. The oil producer must make similar provision, with the added risks inseparable from the finding and production of oil not found in any other business.

This matter of depletion has been examined not only by the Tariff Commission but by Secretary Ickes when oil administrator and by various congressional committees which studied the facts, without any confirmation of Mr. Morgenthau's conclusions.

When the industry has had an opportunity to state its case there has been no difficulty in justifying the depletion as fair to the producer and just to the government.

Osage County Is Producing Over All-time Average

By JAMES McINTYRE

CHIEF FRED LOOKOUT

Perhaps the most colorful oil field in the world is the Osage County field in Oklahoma. It is also one of the foremost fields in all-time crude oil production and after 40 years of drilling and producing it remains among the leading fields in the country in potential as well as actual production.

The next sale of Osage leases will be held at Pawhuska, June 22.

The Osage Indian wards of the government have supplied the color and romance. The white man has been responsible for unearthing the riches which lay below the surface of the Osage lands, all unknown to the government when in 1870 it bought the land that made up the reservation and shunted the Osage Indians upon its broad acres.

Osage Agency, Pawhuska, Okla.

Osage County has produced approximately 487,400,000 bbls. of oil from June 30, 1901, to June 1, 1937, and is producing now about 7,000 bbls. more than its all-time daily average. The county has been one of the world's great fields and is yet an important factor in the industry. A total of 17,256 wells have been drilled within its borders and there remain 9,394 oil wells producing 45,000 bbls. of oil per day, with flush wells curtailed and prorated. Its potential production is considerably more than its allowed output.

There are 80 separate pools in the county, producing from sands all the way from about 300 feet down to nearly 3,000 feet. Its biggest producing sands have been the Bartlesville, which lies at a depth of about 1,200 feet in Range 12 on the east edge of the county, and deepens to 2,170 feet in Range 7, and the Burbank, which is productive in the Burbank, South Burbank and Naval Reserve pools on the western side of the county at depths ranging from 2,600 feet to the 2,900-3,000-foot horizon. The Burbank and Bartlesville sands are different formations, the Burbank being stratigraphically higher than the Bartlesville. The Burbank sand produces oil of 38 gravity, while Bartlesville sand oil averages several degrees lower.

The most productive pool in the county has been Burbank, which up to June 1 of this year was credited with a production of 159,827,548 bbls. in Osage County. In addition, it has produced close to 32,000,000 bbls. on the Kay County side.

Avant Big Producer

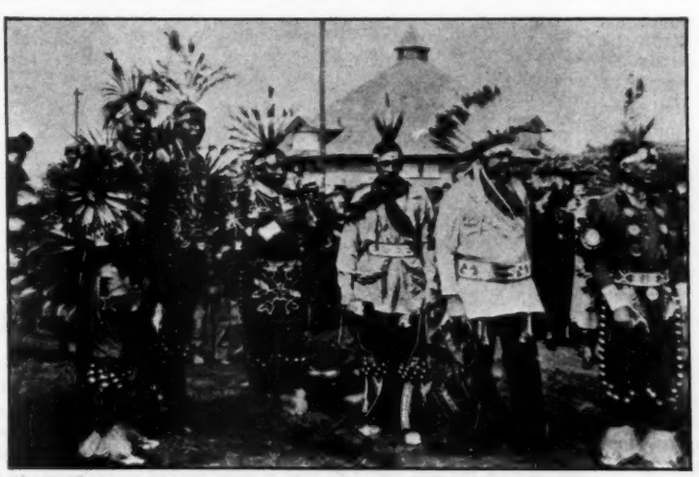
The Avant field in the southeastern part of the county was the big producer in the early years. Wells of large production have been completed in scattered parts of the east side, but no large groups of big producing wells, such as were later drilled in the Burbank and South Burbank fields, were developed east of Range 7.

The west side of the county (west of Range 8) was not opened for the sale of leases until 1918. At the sale on November 9, 1918, 21 quarter sections were bid in for a total bonus price of $62,500, or at an average price of $2,976 per tract, or $18.60 per acre. The prices paid ranged from $500 up to $7,100 per tract. The Marland Oil Co. opened the Burbank field in the NE quarter of section 36-27-5 in May, 1920, on a lease costing $2,000. The Carter Oil Co. completed the second well in September of the same year in section 9-26-6 on a lease that had cost the company $3,600. It was about 5 miles southeast of the discovery well and its completion settled all doubt as to the importance of the Burbank field. In less than seven years from the day the Marland well came in, the 21 leases so cheaply bought in the 1918 sale had produced a total of 20,657,242 bbls. of oil from 290 wells, an average of 71,230 bbls. per well. The discovery well grossed over 1,500,000 bbls. in the first seven years of its life. As the average price of oil of the grade produced in that well was about $1.45 per barrel during that period the well in the first seven years produced $2,175,000 worth of oil on a lease that cost $2,000. The lease, 160 acres, had produced up to April 1, 1,826,152 bbls. of oil and is now making 44 bbls. a day from 11 wells, after nearly 17 years.

There were few cheap leases in the Burbank field after 1920, and in 1922, '23 and '24 came a period of million dollar purchases, when 21 leases brought the Indians in bonus money a total of $28,946,000. Some of these high-priced properties never paid out. The most expensive one, which cost the purchaser $1,990,000, is said to have not even paid for the cost of drilling the 16 wells on it. However, most of the high-priced tracts were large producers, and one of them, Gypsy Oil Co.'s NW quarter of section 24-27-5, which cost $1,310,000 at the sale on January 18, 1923, has produced over 3,500,000 bbls. of oil or an average of 218,750 bbls. per well. This has been the largest producing lease in the Burbank field.

The contrast between the cost of the 21 leases bought in the fall of 1918 at a cost of $62,500 and the 21 leases purchased later at a cost of

(Continued on Page 38)



Gala day with the Osage

Natural Gas News

Michigan Gas Hearings

MUSKEGON, Mich.—Two natural gas hearings were scheduled this week before the Michigan Public Utilities Commission, one Wednesday, June 9, for producers, well owners, pipe line operators, public utility and community officials of lower Michigan, on the new 160-acre spacing pattern for gas wells in the state.

The second hearing on Friday, June 11, will cover the report of a special fact-finding committee with regards to the possibilities for additional gas and needs of local markets. The committee reported on the Broomfield Township, Isabella County, field last week and this week will cover all except the Tri-Townships, Sumner-New Haven and Crystal Township gas supplies. After being checked by the U. S. Bureau of Mines, results of the survey are expected to be published with a decision as to the alleged need for expanding Michigan markets for natural gas.

One of the principal reasons for the survey, being made by a committee representative of the various factions involved, is the recent demand to supply such cities as Pontiac, Flint and Detroit with Michigan natural gas. Heretofore the state commission has taken the position Michigan gas reserves were insufficient to serve such large industrial centers in southeastern Michigan.

Hearing on Malodorants

AUSTIN, Tex.—Representatives of natural gas companies presented their objections to proposed regulations requiring the use of odorants in gas at a hearing before the railroad commission.

H. P. Carroll, of Houston, appearing for United Gas Co., urged that the companies not be compelled to place odorants in cross-country pipe lines.

Panhandle and West Texas sour gas production company representatives pleaded not to force them to insert a malodorant into gas "which already smells so badly an additional stink would be unnoticed." Others offered technical testimony it would be detrimental to the industry to use a "stench" in high-pressure pipe lines between process plants.

Another objection was to the 60 days allowed to install necessary equipment after adoption of rules by the railroad commission, gas men arguing more time was needed.

The oil and gas division will prepare a final draft of proposed rules which then will await modification or adoption of the railroad commission.

Canadian Gas Production

Natural gas production from all Canadian fields in March amounted to 2,677,285,000 feet compared with 3,281,733,000 feet in February and 2,838,626,000 feet in March, 1936. For the first three months of 1937 the output was 9,781,309,000 feet against 10,349,600,000 feet in the same period last year.

Mixed (natural and artificial) gas imported in March was 8,834,000 feet valued at $6,071 against 6,138,000 feet valued at $3,683 in February.

San Antonio Supply

WASHINGTON, D. C.—Seeking approval of the purchase of $1,563,486 worth of natural gas pipe lines and equipment in the San Angelo area, D. A. Hulcy of Dallas, executive vice president, Lone Star Gas Corp., told the Securities and Exchange Commission the supplies serving San Angelo will run out in a couple of years. The corporation and its subsidiaries, Lone Star Gas Co. and Community Natural Gas Co. of Dallas, are buying equipment in that area owned by Texas Public Service Co. and Texas Public Service Production Corp. of Austin and West Coast Power Co. of New York, all subsidiaries of Peoples Light & Power Corp.

"Our engineers in looking over this property," Mr. Hulcy said, "found the fields serving San Angelo will run out in one year or two at the outside."

He particularly emphasized the Coleman County field, adding the Big Lake field in Reagan County produces gas with sulfur in it. He said Lone Star had to augment the supply for the city. When necessary, he said, his company will install a line from the main line at Pipe Springs to make a connection for San Angelo near Brownwood. This would be 35 miles long.

The systems to be purchased include a 12-inch line from San Angelo to Big Lake field and an 8-inch extension line west about 44 miles to Girvin in Crane County; and an 8-inch line from San Angelo into the northeast corner of Coleman County, about 80 miles long.

Natural Gasoline

Phillips Additions

Substantial additions to the Phillips Petroleum Co.'s natural gasoline plant at Eunice, New Mex., have been completed. Three absorbers are being erected at the Edmond, Okla., plant of the company and these, together with the addition of auxiliary equipment will practically double the gas-handling capacity of the original plant.

Texas April Production

During April the final seasonal adjustment from winter to summer conditions took place with respect to gas withdrawals in Texas, according to the monthly report compiled at the direction of the Railroad Commission of Texas. Withdrawals of dry gas during the month totaled 52,955,103,000 feet as compared with 55,531,725,000 feet in March and 45,616,290,000 feet in April, 1936. The Panhandle district accounted for 40,507,380,000 feet of April's withdrawal.

Dry gas withdrawn during the month was disposed of as follows: Light and fuel, 27,755,536,000 feet; gas lift and repressuring, 1,094,734,000 feet; miscellaneous lease operations and drilling, 1,554,822,000; and to gasoline plants, 22,551,962,000 feet.

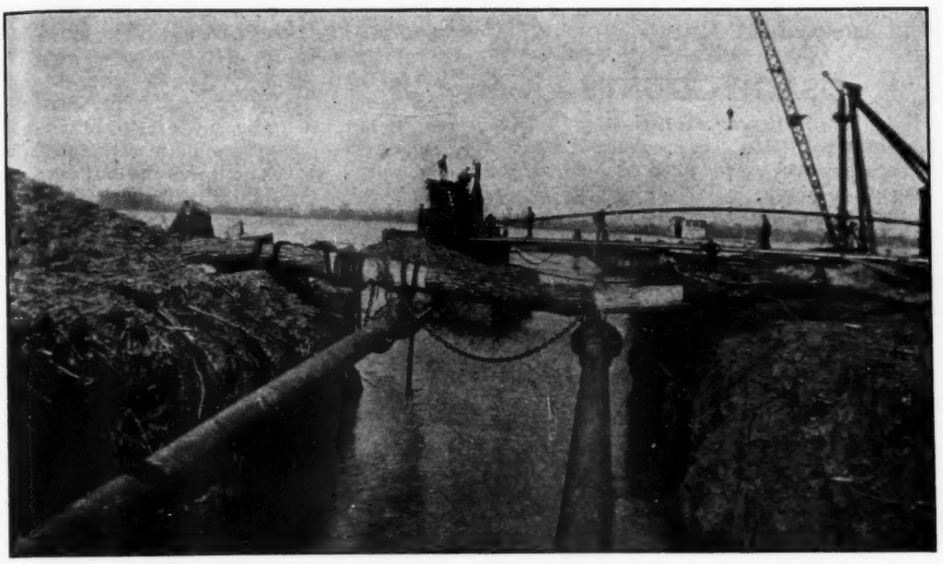
A total volume of 62,085,510,000 feet of gas was processed in Texas natural gasoline plants during April, of which 26,441,490,000 feet was casinghead gas, 18,932,340 feet dry sweet gas, and 16,711,680 feet dry sour gas. From this total volume, 56,423,490 gallons of natural were produced or an average recovery of .91 gallon per 1,000 feet of gas. Carbon black plants in the state, of which there were 35 in operation, processed a total of 23,305,680,000 feet during the month and manufactured 37,374,510 pounds of carbon black.

West Texas Plant Enlarged

FORT WORTH, Tex.—Standard Oil Co. of Texas, subsidiary of Standard Oil Co. of California, has increased the capacity of its southern Ward County, Texas, plant by 15,000,000 feet to bring the plant's capacity to a total of 35,000,000 feet daily. The plant has been in operation since last October. Natural gasoline produced in the plant is mixed with crude and piped to Standard's refinery at El Paso through an 8-inch line from Wink, to which point it is moved by the Atlantic Pipe Line Co.

Built to provide the most equipment for the space, the laboratory at Continental Oil Co.'s crude stabilization and gasoline recovery plant in the Tepetate field, Acadia Parish, Coastal Louisiana, is a model of compactness and neatness. The laboratory is complete in every detail, including among its equipment a low-temperature distillation unit, a special Hempel distillation apparatus, a calibrated pressure bomb, and water testing apparatus for laboratory control of water treatment. Most of the apparatus and other laboratory facilities were specially designed by the men on the job, and built with a view toward convenience and efficiency. In the picture are F. B. Haverfield (standing in the rear) plant foreman; Paul Jacobs, maintenance man, and C. L. Ritter, tester.

Pipe Line Activity



Pipe raised ready for river crossing

Schuler Field Line

SHREVEPORT, La.—Root Petroleum Co. has begun construction of a 6-inch pipe line from the new Schuler oil field of Union County, Arkansas, to its El Dorado refinery, about 14 miles east. This will be the second outlet for that field, Lion Oil Refining Co. having recently completed a line from its El Dorado refinery to its discovery well.

Salt Water Line System

GLADEWATER, Tex.—Bell General Pipe Line Co. has begun construction of a 6-inch salt water line system, which will drain wells in the city limits of Gladewater, East Texas field. The line will lead to Bell's 10,000,000-gallon salt water earthen pit outside the city limits of Gladewater. Other lines are contemplated by Bell General Co. for the same purpose soon.

This is the first attempt of its kind for disposition of the increasing salt water production along the west side of the East Texas field. The plan has the endorsement of city officials, and the State Game, Fish and Oyster Commission.

Starr-Hidalgo Line

A franchise has been let to John Hastings for construction of an oil pipe line from the fields in Starr and Hidalgo counties, South Texas, to deep water at the Port of Brownsville, on the mouth of the Rio Grande River. A period of one year is allowed for start of the construction.

Refinery Expansion

Building Western Kansas Plant

United Refining Co. of Russell, Kans., is now constructing a 2,000-bbl. plant at Russell and has signed a license agreement with Donnelly Process Corp. to operate the combination skimming and cracking unit under the Donnelly patents. The plant will operate on western Kansas crudes. F. E. Reinhardt, formerly with Peerless Oil & Refining Co. of Chanute, Kans., is president of the new company.

Expanding Bromine Plant

NEW YORK.—A $1,000,000 expansion program is under way at Ethyl-Dow Chemical Co.'s plant for recovery of bromine from the sea at Kure Beach, near Wilmington, N. C. Capacity will be doubled, and the annual output of ethylene dibromide will be stepped up to 20,000,000 pounds. Unique in industrial civilization, and the first to exploit the mineral resources of the ocean on a commercial scale, the plant, when construction is completed on July 1, will be enabled to draw 137,000 gallons of water per minute from the sea. Approximately 2,000 gallons of sea water must be treated to obtain one pound of bromine. Ethylene dibromide, which is 85 per cent bromine, is added to tetraethyl lead, the antiknock factor, to be mixed with gasoline.

Two Plants for Bryson Pool

FORT WORTH, Tex.—Bryson Oil & Refining Co. has completed construction of a small skimming plant southeast of Bryson, Tex., in the Bryson field of Jack County; and on the southwest edge of Bryson another small plant is being erected by John Kraker of Gladewater, Tex. The latter plant will be known as the Kraco Oil & Refining Co. A 2-inch gathering line is being laid from the new Cockburn and Harper well in the William Smith Survey, 2 miles northeast of Bryson, and will be connected to the Kraco plant. Oil from Cockburn's two other wells on the northeast edge of Bryson townsite will also be run to the plant.

Adds Skimming Unit

FORT WORTH, Tex.—Wickett Refining Co. has increased the capacity of its Wickett, Tex., plant from 1,800 bbls. to 3,000 bbls. daily by the addition of a pipe still. The unit was formerly in operation at the nearby plant of the Bluebonnett Oil Refining Co., now dismantled.

Refiners Meet

BRADFORD, Pa.—Papers on the economics of oil filtering and refinery water problems drew an attendance of 75 refinery representatives to the meeting of the Bradford group of the department of manufacture, National Petroleum Association, held here early this week in the Emery Hotel.

The Kendall Refining Co. was host at the dinner which preceded the discussions. E. E. Bown, Kendall refinery manager and chairman of the Bradford group, conducted the meeting.

Speakers were Ogden FitzSimons of the Floridin Co., Warren; S. M. Wolbert, plant engineer, Kendall Refining Co., and A. R. Borden, of the Hagan Corporation, Pittsburgh.

The effect of overburning the earth was discussed at length by Mr. FitzSimons. He said, "The fact that bauxites maintain their efficiencies on reburning reaffirms the contention of our laboratory that the only reason fuller's earth loses efficiency is due to overburning. Recently we have carried out a considerable amount of work in various plants using a new type of radiation pyrometer . . . By means of this instrument, we have been able to take the surface temperatures of clay in multiple hearth burners and have found that it is often 200° F. hotter than the recorded gas temperature or that of the clay bed 1 inch below the surface.

"Even momentary exposure of fuller's earth to temperatures in excess of 1,300° F. causes a rapid loss in efficiency. In many cases we have found surface temperatures as high as 1,400° F. and 1,450° F. so that the small amount of clay on the surface of the hottest hearth is ruined. Thus each time 3 to 7 per cent of fuller's earth may be overburned, causing rapid loss in efficiency."

Mr. Borden, in his paper on "Some Problems of Water Treatment and Their Solution," said, "Just as developments in motor oils have made possible continuous operation of high-speed engines for extended periods, so have research and development changed the picture in water conditioning. With old methods it was possible to operate boilers for periods of from one to three months; with today's improved methods, operation of boilers for years is practiced in many plants."

He outlined the following steps in the attainment of continuity of operation:

(1) Arrange conditions in the boiler so that hardness in the feed water will become sludge and not scale. (2) Prevent corrosion. (3) Prevent embrittlement. (4) Maintain boiler water in such condition that the quality of the steam will be that desired.

Canadian Association

HAMILTON, Ontario.—Approximately 200 delegates, chiefly from the natural gas districts of southwestern Ontario, gathered here for the fourteenth annual convention of the Natural Gas and Petroleum Association of Canada.

Dr. John Reeves, general manager and geologist of Penn York Gas Co., read a paper on "Construction of Modern High Pressure Pipe Lines, Handling and Controlling of High Pressure Gas Wells."

Kentucky Oil and Gas Men Meet at Lexington

LEXINGTON, Ky., June 7.—The meeting of the Kentucky Oil and Gas Association at the Phoenix Hotel, June 4 and 5, was exceptionally interesting. The chief speaker, Russell B. Brown, counsel for the Independent Petroleum Association of America, traced the writing of legislation to control the movement of "hot" oil, balance supply with demand, secure an interstate compact, and limit importing of oil. He warned against indifference to such legislation as the Wagner bill, the proposed wage laws, and anti-pollution bills. Congressmen, he said, must be informed of the specific needs of oil men if the reasonable interests of the latter are to be protected. Most of the laws, he added, provided for exceptions in certain cases, but such exceptions are inserted only when the people, through their representatives, make their wishes and needs known. He urged the Kentucky industry to be articulate, both with respect to national legislation and the interstate compact.

Carl Weidemann, of Owensboro, spoke briefly, praising the work of Wirt Franklin and Mr. Brown in the Independent Oil Men's Association. He said the Kentucky Association was an outgrowth of the activities of the national group which, he said, should be supported wholeheartedly. Among those introduced at the banquet were C. J. Caudill of Prestonsburg, Mayor Reed Wilson of Lexington, Senator Joe Thackett of Prestonsburg, Senator Lee Gibson of Owensboro, Norwood Johnson, Cumberland Petroleum Co., Pittsburgh, Pa.; C. B. Turner, Pittsburgh, Pa.; Peter C. Vangilst., Cleveland; E. L. McDonald, general counsel, Ashland Oil & Refining Co.; John Klise, Kemrow Co., Wooster, Ohio; W. L. Sutton, Petroleum Exploration Co., Sistersville, W. Va.; T. J. Tonkin, vice president, Central Kentucky Natural Gas Co., Marcus; A. Monaghan, Cleveland; Ray Rowan, Charleston, W. Va.; W. I. Hinchey, Owensboro; H. T. Downing, Bowling Green; C. C. Carroll, Marshall, Ill.; Prof. Arthur McFarland, John F. Daniel, Daniel J. Jones and Gilmore N. Nunn.

At the open discussion of repressuring Harry M. Ryder, of Bradford, Pa., who presided, said improving oil field operations, including repressuring, were bettering prospects for profits. Repressuring, he emphasized, is a highly individualized problem, affected by the price of crude oil, cost of operating, spacing of wells, character of oil bearing formations, and other factors. The speaker urged repressuring be accompanied by frequent laboratory tests. He recommended the "chip test" of saturation samples and said gas is better than air in repressuring because it makes the oil lighter and lowers its viscosity, and pointed out numerous factors which affect successful driving of recoverable oil to wells.

Denton County's first oil well, Lander and others No. 1 E. W. Forrester, 2 miles west of Bolivar, Tex. Notice new type of living quarters for some of the members of the crew. Trailers are now much in evidence as bunkhouses at wildcat tests drilling in Texas

OSAGE COUNTY

(Continued from Page 35)

$28,946,000 is striking. The cheap leases enriched their owners. The million-dollar ones did well for some of the buyers.

Auction sales of Osage tracts for oil purposes commenced in 1912 and will continue as long as there are any undrilled quarter sections in the county. Up to and including the recent sale which yielded $325,750 in bonus, a total of $114,011,138.11 has been poured into the coffers of the Osage tribe for undeveloped and unexplored tracts aggregating 978,838.65 acres, which represents nearly two-thirds of the area of the county.

The foregoing briefly covers the industrial side of the Osage Nation. There is also a human side, where the Indian comes in.

The Osage Indians are of Siouan stock. They once held an extensive area between the Missouri and the Arkansas Rivers, including what is now northern Arkansas, most of Missouri, a part of Kansas and the northern part of Oklahoma. Father Marquette mentions them in 1673 as living along the Osage River in Missouri. They were a strong, brave and warlike tribe who engaged in wars with the Cherokees and Chickasaws on the east and the Kiowa, Cheyennes and Pawnees on the west.

In 1701 it was estimated that they included from 1,200 to 1,500 families living in the region of the Arkansas River near the Kansas and Missouri Rivers, in what is now Kansas. In 1808 the tribe ceded to the United States government all its lands east of a line running south from Fort Clark, Kansas, to the Arkansas River, which included most of Missouri and northern Arkansas and all its lands west of Missouri. This left the tribe all that part of what is now Oklahoma lying north of the Arkansas River, on the eastern side, and the Canadian River on the western side, but this was ceded to the United States in 1825, 1839 and 1865.

The tribe moved to its present reservation in 1870. The government paid the Cherokee tribe of Indians 75 cents per acre, or $1,099,137.41, for 1,464,453 acres out of the big Cherokee reservation. The land purchased, which now comprises Osage County, became the Osage Nation, and the tribe at last settled upon a reservation that they could feel was a permanent home.

The Osages became a part of the oil industry on March 14, 1896, when the tribal council gave a lease on the whole reservation to Edmond D. Foster of New York, who organized the Indian Territory Illuminating Oil Co., which opened the first oil production in the SW quarter of section 34-27-12, a few miles west of Bartlesville.

Following the discovery of oil, the development of the Osage oil resources was very slow because of the lack of a market for the crude. The first official record of production for a year was in 1901, 10,536 bbls. of oil, an average of about 29 bbls. per day. Production did not reach 1,000,000 bbls. a year until 1905, when it totaled 1,868,260 bbls.

In 1906 the county produced 4,504,004 bbls., or an average of 12,340 bbls. per day. Up to that year the tribe held everything in common, but it was decided to change this. A census was taken, and when every member of the tribe alive at midnight on December 31, 1906, was counted it was found there were 2,229 men, women and children, each of whom was given surface ownership of 657 acres of land and, in addition, one share in all the financial returns from oil and gas sources. The shares were called headrights.

The revenues derived by the Indians in the 35 years from June 30, 1901, to June 30, 1936 (the end of the last fiscal year), were $257,351,600, divided as follows: Oil royalty, $119,455,900; gas royalty, $16,968,200; bonuses from the sale of leases, $113,752,500; interest on deferred bonuses, $5,160,000; rentals, $2,015,000.

The total revenue represented $115,456 per share, or an average of nearly $3,300 per share per year. Unfortunately for many of the share, or headright, owners, this income did not come to them uniformly. It was not until after the Burbank field was discovered in 1920 that the Indians came into what may be termed big money. Their income, which had been $1,097,854.71 in 1916, or about $492 per share, jumped to $9,052,551.78 in 1920, and to a peak of $14,072,541.61, or about $6,313 per share, in 1923, which was the biggest producing year the county experienced, with a record of 41,810,178 bbls., or an average of 114,524 bbls. per day. The annual income remained above the $10,000,000 mark each year until 1927, and averaged over $11,000,000, or about $4,940 per year per share, for eight years, from 1920 to 1927, both inclusive. It was during that period that many of the shareholders went on magnificent spending sprees, which were the subjects of many exaggerated stories in metropolitan Sunday supplements.

By reason of deaths in the tribe and consequent legacies, and through marriages among headright owners, some of the Indians began to accumulate additional headrights and the original status of one-as-rich-as-the-other was changed. During the boom years of $11,000,000 annual incomes there were families with several headrights with incomes of $25,000 or more per year. On the other hand, by reason of deaths, some of the single headrights were split up among heirs born since January 1, 1907, and these only had a relatively small share in the riches accruing from the big production.

Not all of the Indians were thriftless. Some of them were prevailed upon to save a portion of their wealth so easily acquired. The Indian Agency at Pawhuska at this time is the custodian of 841 individual accounts ranging from less than $1,000 up to $250,000, to the credit of thrifty members of the tribe. Some of these account owners also possess United States bonds and other safe and sound wealth.

But the sad part of the story is that many of the tribe are living on their current income from royalties. The last quarterly payment made was $370 per headright. The maximum amount any headright owner may receive in these pay-offs is $1,000 per quarter per headright. If a headright owner had enough money to his credit with the Indian Agency he could have demanded a payment out of his account sufficient to make up $1,000 when added to the $370 royalties payment. Otherwise, all that was coming to him was the royalty money. But not all the Indians received even the $370. Owners of fractional shares received hardly enough to make both ends meet, as some of these part-share owners are married and have families. The largest headright owner in the tribe has accumulated eight and one-half shares and is on Easy street compared to some of the tribesmen who are eking out an existence on a part of one share.

OBITUARY

WILLIAM A. BAKER, 90, pioneer oil man, died at Oil City, Pa., recently. He was well known throughout the oil fields. He moved to Rouseville, Pa., when a young man and resided there many years before removing to Oil City about 20 years ago. He was born July 3, 1847, at Louisville, Ky.

Oil News from Foreign Lands

Mexican Strike

Mexican oil workers voted Monday night to return to work on the conditions that American and British companies immediately increase the rate of pay by $3,600,000 annually and that the government audit company books to determine their ability to pay. The audit would play a vital part in final arbitration of the differences between unions and companies. Indications are the companies will oppose forced auditing of their books and may elect to refuse the terms stipulated for arbitration.

Before reaching the current stage of settlement, the unions defied two previous orders from President Cardenas that the strike should be terminated. Open defiance of the president's orders has injected a political issue into the oil strike which may hamper final settlement.

President Cardenas warned the two factions that if a settlement is not reached immediately, the Mexican government will step in and dictate terms for ending the strike which has tied up the entire industry for more than a week. Directing his remarks to both the union leaders and company representatives, the president informed them that he was not disposed to let this situation continue. He said he had reason to believe that neither group was making a sincere effort to reach an understanding and for public good a settlement was essential.

Japan's Petroleum Imports

Japan's position as a substantial customer for U. S. crude oil and petroleum products probably will be maintained, even though the Pacific Island's imports increased more than 3,000,000 bbls. in 1936. This was the apparent and logical conclusion from remarks made by high government officials in the Japanese house of representatives at Tokyo last week.

During debate on government bills for subsidizing the manufacture of gasoline and oils from coal as part of the nation's program for military self-sufficiency, it was declared that the Imperial Navy's petroleum stores are now sufficient to sustain a protracted war. The statement was made by Admiral Mitsumasa Yonai, minister of the navy, but he refused to give further details on the actual amount of oil in storage, which is a closely guarded military secret.

However, it is generally estimated that Imperial Navy imports amount to something more than 6,000,000 bbls. per year, which is regarded considerably above requirements for peace-time maneuvers and training. In addition to Japan's own crude oil production of about 1,250,000 bbls. last year, the country imported liquid petroleum products totaling 34,193,000 bbls. With the United States supplying about 18,107,000 bbls., compared to roughly 14,000,000 bbls. from the same source in 1935, it is evident that this country furnished all of the increase and replaced part of the supplies previously obtained elsewhere.

Internal domestic sales quotas in Japan for 1936 covered only 21,222,500 bbls. of crude and refined products. Considering the Imperial Navy's imports at 5,595,238 bbls., the total would be increased only to 26,817,738 bbls., or more than 7,000,000 bbls. under the imports as reported by the United States Bureau of Commerce.

In view of the fact that Imperial Navy consumption and imports are mere guesses at the best, it is not inconceivable that the discrepancy of about 7,000,000 bbls., in addition to part of the 5,595,238 bbls. estimated has actually gone into the military storage facilities.

There has been no final disposition made of the minimum stock requirement dispute between the Japanese government and the two largest petroleum importers, Shell and Standard-Vacuum. The government is attempting to require importing oil companies to maintain larger stocks within the country and a suggested settlement of the question involves government construction of the storage facilities.

The following table shows Japan's petroleum imports by products for 1935 and 1936:

JAPAN'S PETROLEUM IMPORTS

Products—	1936	1935
Crude and heavy oil	24,609,000	21,875,000
Gas oil	4,591,000	4,377,000
Light gasoline	4,000	16,000
Medium gasoline	2,333,000	1,366,000
Heavy gasoline	1,785,000	2,376,000
Kerosene	473,000	635,000
Lubricating oil	243,000	187,000
Other	155,000	94,000
Total barrels	34,193,000	30,926,000
Petrolatum*	1,668,000	1,431,000
Paraffin wax*	50,278,000	40,230,000
Grease*	559,000	5,710,000
Total pounds	52,505,000	47,371,000
Pitch and asphalt†	6,421	6,247

Note: (*) designates figures in pounds; (†) figures in metric tons.

Increases which will almost double the import duties on oil products to Japan are proposed by the Japanese Ministry of Commerce now resting with the cabinet for final disposition.

Like many European countries, Japan is now committed to a self-sufficiency program, including synthetic gasoline production. Necessity for capital to support the expensive factory installations for production of synthetic gasoline and at the same time to protect it in its infancy probably are the factors responsible for the proposed increase in petroleum duties.

While accomplishing protection and revenue for the synthetic gasoline production industry, the Japanese tax proposal, if adopted, will also hold some inducement for companies to refine their crude within the country. The Japanese import duty plan closely parallels that in Germany, which was instrumental in fostering a national refining industry. Existing duties and those proposed by the minister of commerce, follow:

Product—	Duty Present	Duty Proposed
Gasoline	12.5	17.5
Kerosene	10.8	15.5
Lubricating oil	16.28	26.93
Fuel oil	*6.05	*6.75
Diesel oil	*11.75	*10.30

Note: Figures in sen per American gallon, except (*) which are yen per 1,000 liters.

In developing the proposed Japanese synthetic gasoline producing industry, the government proposes to spend approximately $15,000,000 over the period of its seven-year building plan. First commercial production of alcohol, which is to be blended with petroleum gasoline under compulsion, will be first produced on commercial scale during 1938. Plans call for gradual increase of alcohol production to a maximum of 267,000 tons at the end of the seven-year period in 1945.

The taxes proposed on fuel oil and diesel oil appear to be only slightly increased or actually lowered. However, the proposed taxes of 6.75 yen per 1,000 litres on fuel oil and 10.30 yen per 1,000 litres on diesel oil will apply to all products imported under terms of the new revenue proposal. Under existing import laws most of the fuel oil and diesel oil are imported to Japan duty-free for the purpose of fostering national industry and for the use of Japan's thousands of fishing boats.

In addition to the increase and new excise tax on gasoline, the new import duties provide that importers of crude oil must pay additional 5 sen per American gallon on the estimated gasoline content.

Search in Chile Fails

The Chilean government has spent upward of $1,200,000 searching for petroleum production in Magallanes. Although showings have been encountered at various points, there has been none developed in commercial quantities. The director of the department of mines and petroleum of the Ministry of Development has supplied to T. B. Frost, United States consul general, an itemized listing of the expenditures. Most of the total was spent prior to 1932 when work was temporarily suspended. Subsequent to renewal of work in 1936, an additional 2,800,000 pesos have been expended. Present value of a Chilean gold peso is approximately 5.19 cents.

Closeup of well pump in Irak

Methods for Catching Rotary Drill Samples in Oklahoma

By PAUL REED

Washing drill cutting samples before sacking at the well

Methods for catching rotary-drill cutting samples in Oklahoma have been affected by two factors in recent years: one of these is the growing use of the vibrating screen; the other is the reduction in the number of sampling devices commonly used. Now that sample catching has become a part of the routine of drilling a well, it has passed out of the experimental stage of a few years ago when ingenuity was being applied to inventing means for getting a continuous set of representative samples with the least trouble to the drilling crews.

Sample practices have been narrowed to the few proved satisfactory. It is apparent that owing to the various conditions under which drilling is done, it is often necessary to adapt methods to demands of the situation to meet requirements for good samples. In spite of the rapid spread of the use of the vibrating screen throughout the state, there are still large areas where most of the samples are caught in boxes. And occasionally samples are taken from both box and screen.

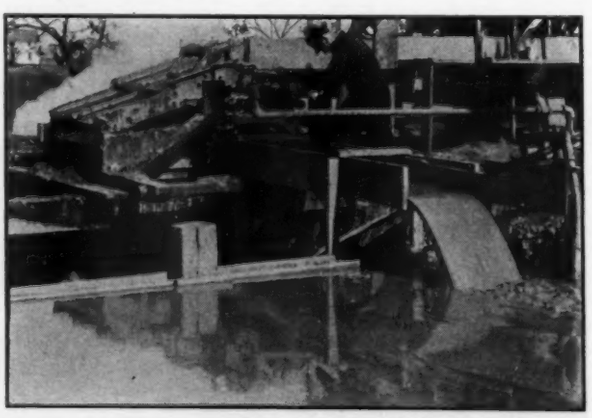
Present practices are far from being automatic, and of more importance than the mechanical aspects of the devices used, is the human factor manifesting itself in the control of the condition of the drilling mud. Other important factors are the intelligence and regularity exercised in catching the samples and in the careful handling of them in the course of whatever washing and drying is done at the well. Before discussing the most conspicuous aspects of current practices and the divergent opinions held regarding them by members of the staffs of major companies, mention should be made of the manner in which sampling practices have become established as they are now.

The general satisfaction expressed today with the run of samples being saved at drilling wells reflects a situation existing because of the prevailing cooperation of drilling crews, production departments, and geologists. Sample catching is specified in the drilling contracts of major companies because results obtained have convinced the management of the value of logs based on the examination of rotary-drill cuttings. These not only furnish the geologist data for structural and stratigraphic correlation necessary in exploration programs, but they also furnish the production man with data regarding casing points and possible producing horizons above the horizon originally drilled.

The importance of having samples of possible producing formations, penetrated in the course of drilling, has been impressed upon the industry by the recent development of the Olympic pool. Its development indicates that similar pools in that area might have been developed in shallow Pennsylvanian producing horizons if samples had been systematically caught during the development of Seminole. Then samples were taken only from the lower formations, usually beginning with the top of the Mayes. As it is now there is an absence of records indicating the thickness and character of the shallow sands that might have been drilled through. In the development of the Oklahoma City field the value of such samples in locating shallower sands has been demonstrated. The importance of sample logs and their possibilities have been emphasized since the discovery of the East Texas field which has shown that more effort should be applied to the search for large fields which can occur as the result of stratigraphic conditions. In the search for fields of this nature, sample logs are expected to furnish important clues.

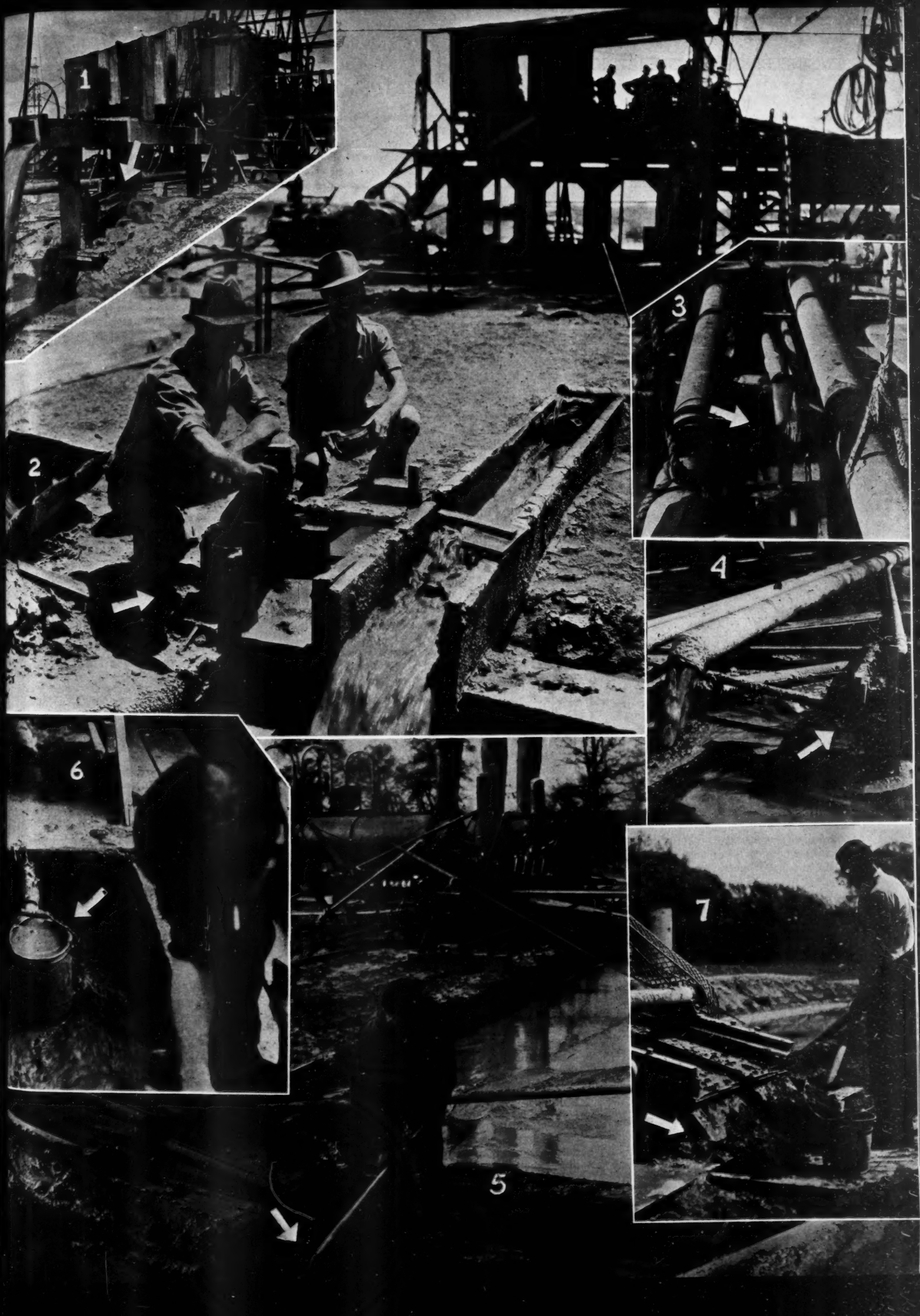
Samples are taken as a by-product of drilling operations but if the well is dry it turns out that the samples furnish a record that is the one and only final product. The samples may be of great or little value in future exploration work but they are the only thing of any value which the company retains as the result of expenditure on the venture. In the course of the development of a field, there have been numerous instances where a handful of cuttings grabbed out of a sample bucket in the middle of the night indicated formations were running high. As a result deals closed on this evidence have made millions of dollars.

Sample catching methods are controlled in different ways and it is impossible to make any generalization unless it be that sampling methods must be suited to conditions. This control may be exercised by the drilling crew, geologist sitting on the well or in charge of the district, or by a production engineer. Accurate samples when necessary, while looking for geological tops and casing points, are obtained by circulating. While drilling on down the well, it is customary for sampling to be done without interference with the speed of drilling. A certain degree of accuracy must be sacrificed under such conditions. Samples caught in this way are useful for structural and stratigraphic correlation even though errors in estimating the depth of formations may often be between 10 and 35 feet. At shallow depths returns



Most drill cutting samples in Oklahoma are caught on a board at the end of the vibrating screen as is shown here

Sample catching practices at Oklahoma drilling wells. (1) Box under flume. (2) Taking sample from box on side of flume. (3) Part of mud stream diverted by pipe to box in flume. (4) Diverting part of mud stream to one side when welded connection required. (5) Shoveling sample from board at end of vibrating screen; samples dried on partitioned rack at boiler in background. (6) Mud stream diverted through pipe. A small amount flows into pail giving satisfactory samples at a rig where representative samples were not caught on board at end of vibrating screen. (7) Sample shoveled from platform large enough to hold all cuttings caught in the sampled interval.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come to the surface fairly quickly and formations are readily identified. When the well is drilling at a considerable depth, fresh cuttings may be coming to the surface more than an hour or two after the formations they represent have been penetrated. They also are considerably mixed with cuttings from other formations and cavings.

Standards for sample-catching devices were stated in the pioneering stage of this program by Stuart K. Clark, James I. Daniels, and J. T. Richards* in their description of making a satisfactory

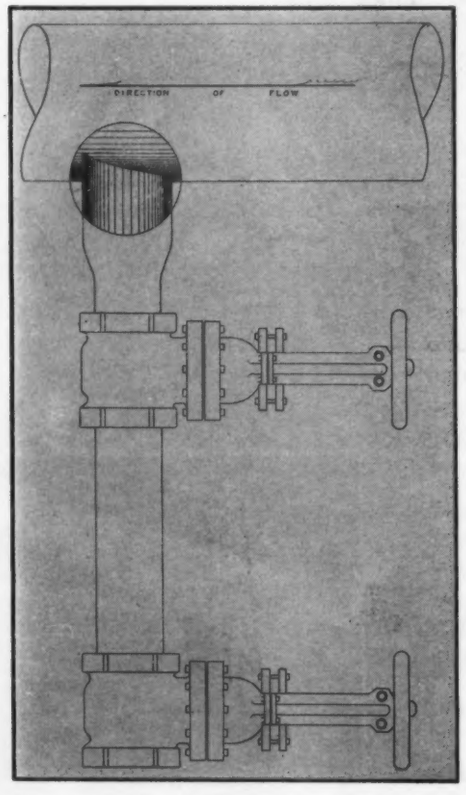


Fig. 1—Device designed for production department of Magnolia Petroleum Co. for catching sand samples while drilling in a flowing well

rotary log from a continuous set of cuttings. To be satisfactory, it was stated that the samples must be collected by a device capable of making a continuous automatic separation of a representative sample of the cuttings. Other geologists later defined requirements further by saying that sampling methods should be judged by:

1. Ability to make a continuous separation of a representative sample of the returns over a given interval or least approximate this condition.
2. Accessibility or convenience.
3. Adaptability to various rig arrangements.
4. Economy and simplicity of installation.
5. Ability to perform uninterrupted service.
6. Salvage value.

In most cases the vibrating screen fits these requirements adequately and furthermore makes it possible to get a sample uniformly representing the cuttings returned during the drilling of a given interval. They also improve the quality of the sample by eliminating recirculation of cuttings.

Although usage of the vibrating screen has been extending rapidly through Oklahoma, a large number of wells, particularly in the wildcat areas are not equipped with vibrating screens. As a rule samples from these wells are caught in boxes of various kinds. In the southern part of the state most samples are caught in boxes.

In the early days of sampling, a decade ago, the disadvantages of strainers were recognized. Occasional samples caught in a bucket held under the flow line were of limited value and under existing conditions it was seen boxes were needed that would be adequate in size for catching a representative sample from the whole interval being sampled. For several years it was common practice for geologists to give close attention to the design of boxes as adjustments sometimes had to be made for the rate of flow.

In some cases rigs have been shut down until sample catching facilities were provided which met the approval of the geologist. But in most cases the geologist was bent on devising means for getting a representative sample which would be convenient for the drilling crew. This was because the regularity of taking the sample was of more importance than the quality of the sample. To carry this out, there was some experimenting done with jets for delivering the samples to the derrick floor. However, difficulties were encountered and only a few drillers have persisted in making jets work satisfactorily.

Sampling Devices

In discussing the various kinds of sampling devices, it should first be mentioned that there are still some cases where samples are caught in a screen, shaped like a nose bag on a horse, hung from the flume. A bucket filled with bolts to break turbulence is occasionally seen in use for catching cuttings from the flume. The most common types of sample boxes for catching samples from a fraction of the returning mud stream are made in the following ways:

1. Box with removable weir placed above the flume and mud flowing in through a pipe at an angle. The correct length of pipe is important for good samples.

2. Box placed at an angle and on approximately the same level as the flume or return line.

3. Box under the flume, receiving part of the mud through a hole in the box.

Another common device is a dam in the flume.

In certain areas some geologists continue to find it advisable to supervise the construction of boxes for wells drilled by their companies. Among them the opinion has been expressed that the usual 2-foot by 1-foot box is too small to check the turbulence and to allow proper settling of cuttings, therefore a 4-foot by 1-foot box is recommended. Boxes are usually made of 1-inch board provided with a removable dam held in place by upright cleats. Provision for easily cleaning the box after taking each sample is important. In some instances where a geologist feels that he is not getting the fine cuttings in samples taken from a shale shaker he may have samples caught in a box taking mud from the flume before it reaches the shaker. This is done because it is sometimes possible to identify "tops" higher up in the hole when the "fine stuff" is available for examination.

Viscosity Control

Some of the geologists who have been giving close attention to rotary cuttings for more than a decade assert that the proper control of the viscosity and plastic quality of the drilling mud is of more importance in the catching of samples at the present time than the particular device used for trapping cuttings at the surface. Plastic mud, by sealing up the walls, stops caving and gives a clean hole; proper viscosity and velocity are important in bringing cuttings to the surface. There are cases where the viscosity of a watery mud has been increased after drilling several thousand feet and cuttings have been brought up which have been in the hole a good deal of the way down, representing most of the formations drilled through. While some companies are very particular about the mud conditions, others prefer to leave the driller alone. In such cases it often occurs that the geologist is sure that the samples from the vibrating screen are unsatisfactory because the viscosity of the mud is too low. But rather than exert his influence to have the viscosity changed, the geologist prefers to have a sample caught by having mud flow through an 8-foot nipple of 2-inch pipe to a bucket in the flume ahead of the shaker. In such a sample arrangement, the bucket is placed so that part of the mud from the nipple flows into it and out without turbulence. A number of geologists have found that samples can be caught in this way, when there are special reasons for being particular about getting the "fine stuff."

On the whole, satisfactory samples can be obtained if they are taken regularly at definite intervals and if the device for catching the samples is provided so that it will not fill up. The most common criticism which can be leveled at sampling methods practiced today is that samples overflow the devices provided for catching them. Boards for catching samples at the end of vibrating screens are often too narrow and part of the sample spills off into the pit below. Most sample boxes would be better if they were longer.

The choice of sample box used is affected by the terrain at the drilling well, flow of mud to the pit, and accessibility. Although the box is effective in catching the fine cuttings, its effectiveness is influenced by current conditions and care must be taken to control turbulence. Weirs within the box can often be used to advantage. When samples are caught by a dam in the flume the effect of eddies must sometimes be reckoned with. Under these circumstances, back-currents have been known to take fine cuttings back under the derrick floor.

While not strictly a problem of rotary sampling, attention might be called to a device which was made for the production department of the Magnolia Petroleum Co. for sampling flowing wells where the producing formations have been drilled with cable tools. This has also been found to be useful in deepening wells where the volume of oil and gas produced made it impractical to run the bailer and obtain samples in the usual way. The device is shown in Figure 1. It consists of a 4-inch by 2-inch swedge welded on the bottom of the oil

Contrast in the condition of samples taken at wildcat wells in southern Oklahoma and shipped to cooperative laboratory at Ardmore

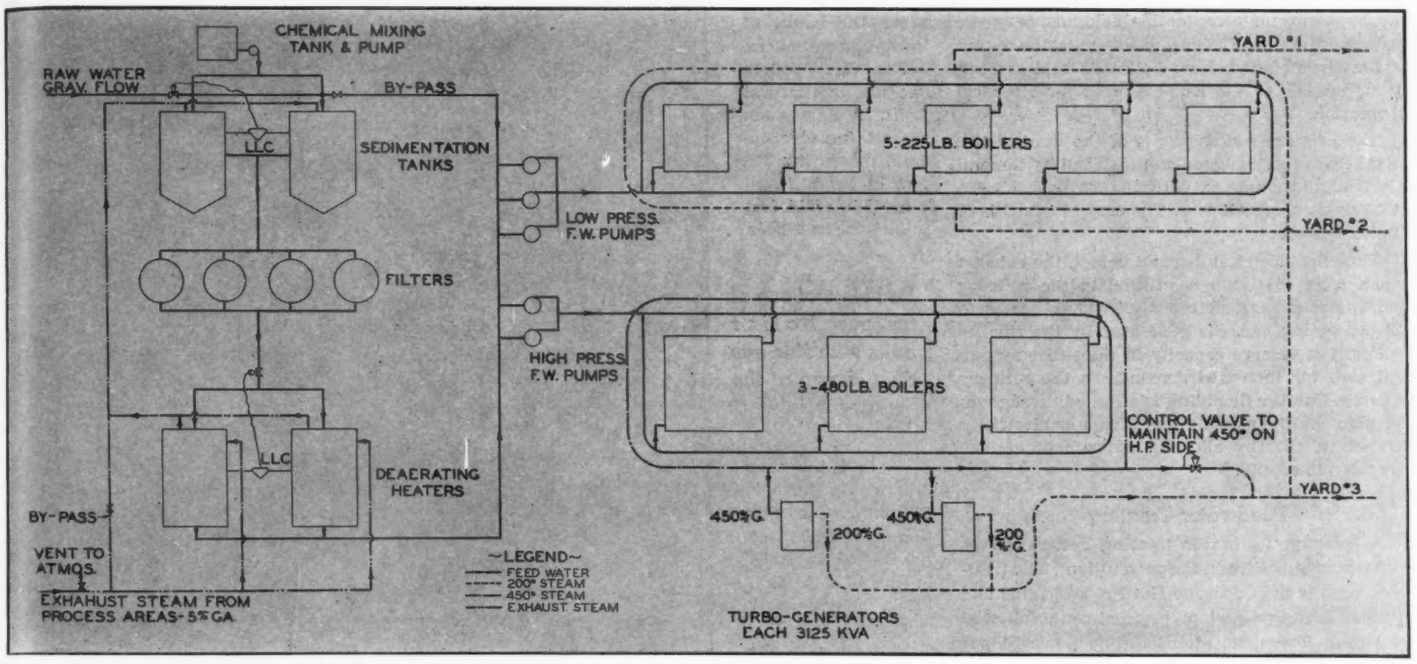
flow-line at a bend between the well head and the separators. Two gates with a short 2-inch nipple between them were placed on the bottom of the swedge. Oil flow carries the drill cuttings up from the bottom and cuttings accumulate in the swedge.

When a sample is desired the upper gate is opened, allowing the cuttings to fall into the nipple between the two gates. The upper gate is then closed and the sample extracted by opening the lower gate.

The sampling process carried on at the well may be regarded as including the rough washing and

(Continued on Page 48)

*"Logging Rotary Wells From Drill Cuttings," Stuart K. Clark, James I. Daniels, and J. T. Richards, Bull. Amer. Assoc. Pet. Geol. Vol. 12, No. 1, January, 1928.



This schematic plan of the power system at the Shell refinery illustrates the grouping of high- and low-pressure boilers. The two new units are represented in the lower group

New Trend in Boiler Equipment Shown by Shell Installation

By GEORGE WEBER

A new departure in the design of steam generator installations is nearing completion at the Houston, Tex., refinery of the Shell Petroleum Corp. The new addition to the plant's power system comprises two high-pressure Vogt steam boilers together with two new electrical generators and auxiliary equipment. The two boilers embody the latest improvements in steam generating units, and in addition, mark a new trend in boiler construction. Instead of being housed in the usual brick or tile building, the boilers are installed in the open.

This new step in power plant design finds precedent in type of construction used in modern crude oil furnaces. Since such heaters operate efficiently without use of external housing, it is reasonable to assume that steam boilers should show similar efficiency, with a considerable saving in construction costs. The innovation, which is particularly adaptable to the mild climate along the Gulf Coast, is finding increased usage in the design of refinery units throughout this area. A new trend is presaged by the Shell adaptation to steam boiler units, and the work is attracting considerable attention among refiners throughout the country.

Serve Expanding Refinery

As a part of a major construction program under way at Houston, the two new boilers are being incorporated into the refinery power system to care for increased demands of the rapidly expanding plant. Each boiler is capable of delivering 140,000 pounds per hour of superheated steam at 460 pounds and 660° F. The load in the system, however, will approximate 100,000 pounds per hour each.

Upon completion of the new power facilities at the refinery, the steam system will comprise two distinct pressure groups. Five low-pressure boilers tie into a manifold supplying the refinery with process steam at 200 pounds. In the high-pressure group, two new Vogt units are combined with a Babcock and Wilcox high-pressure boiler, the three units furnishing steam at 460 pounds.

This power is converted to electricity in two new 3,125-kva. turbo-generators. A common manifold from the superheater outlets of the three units transmits the high-pressure steam to the turbines in the generator house. Bleeding of higher pressure process steam is not practiced in this system, since the turbines are of straight back-pressure type, exhausting at 200 pounds. The exhaust steam is admitted to the refinery yard mains at a temperature of 512° F. for process use.

Through efficient engineering, the design of the power plant makes allowance for maximum use of the new boilers, at the same time maintaining flexibility for operation through a wide range of steam or electric demand fluctuations. Optimum operation conditions will be maintained at all times with sufficient reserve capacity available for load changes.

The total electrical power demand of the refinery is approximately 5,000 kva., supplied at 2,300 volts, 3 phase, 60 cycles. The three high-pressure boilers will furnish sufficient steam for generation of that electrical demand. The total high-pressure steam load for that purpose will be approximately 290,000 pounds per hour, 90,000 pounds being supplied by the existing unit and 100,000 pounds by each of the new boilers.

The total steam demand for processing use in the entire refinery is approximately 400,000 pounds per hour. A large share of this load will be furnished by the high-pressure boilers in form of the 200-pound steam exhaust from the turbines. The remainder will be made up by the five smaller low-pressure boilers in the system. Two yard mains serve the plant from the low-pressure boiler bank and a third is tied into both low- and high-pressure groups.

Flexible Operation

It is possible to adjust the load on the steam boilers, so that a maximum efficiency is attained at all times. The flexibility of the design allows for efficient operation at a widely divergent range of demand conditions. In the high-pressure group, 460-pound steam from the superheater outlets of the three units may be bypassed around the generators and admitted through a Mason-Neilan pressure-reducing valve, at 200 pounds to the yard main. This allows the use of excess high-pressure

steam for processing in the plant. However, since the bypassing of considerable amounts of steam deducts from the efficiency of the units, the output of the three high-pressure boilers is held as nearly as possible to the load required for electrical generation.

The primary switchgear is of the vertical lift, metal clad type, designed and installed by General Electric, and equipped with 100,000 kva., oil circuit-breakers, type K-44-B. The control board is of duplex design.

Thus the electrical demand is met, the exhaust steam from that step is utilized in the refinery mains, and enough additional 200-pound steam to fill processing needs is generated by the smaller boilers. The reserve capacity in the entire system will care for increased demands as the refinery expands. Further flexibility is afforded throughout the plant by the use of either steam or electricity for power, thereby allowing adjustment of consumption to supply.

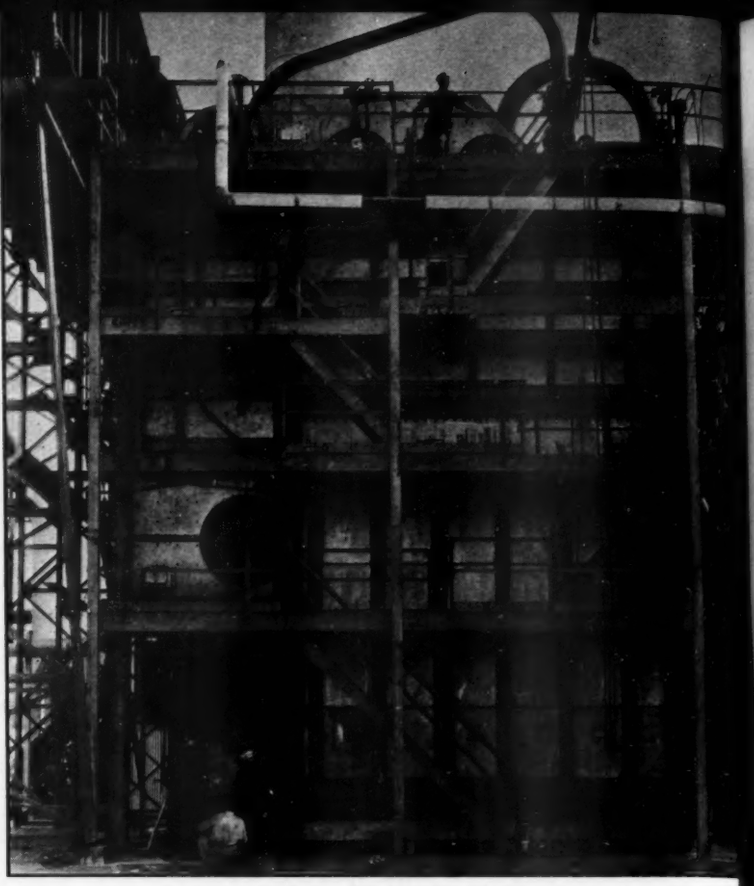
Feedwater Treating

A common feedwater treating system serves both banks of boilers in the power plant. The treatment used is the Cochrane Hot Process. Lime and gypsum are employed in pretreatment, followed by Hagan Phosphate after-treating. Since 85 per cent of the boiler feedwater is makeup; 15 per cent being recovered from exhaust steam, the treating plant is equipped for large capacity operation.

The chemical mixing and sedimentation takes place in two tanks, operated in parallel and equipped with liquid-level controllers. Filtering follows in four units, after which the feedwater is deaerated in two heaters. Heat is supplied by exhaust steam from the processing in the plant at 5 pounds gauge. After deaeration, the treated water is picked up by two groups of pumps.

Raw feedwater is supplied to the sedimentation tank from a deep well adjacent to the boiler-house site. The treated feedwater is pumped to the high-pressure boilers by two new Worthington pumps, one electrically driven and the other steam driven. Three Goulds pumps serve the banks of low-pressure boilers.

The new boilers operate at natural draft. A new stack of reinforced concrete measuring 310 feet in height, with a top I.D. of 13 feet 6 inches, has been erected by the Alphons Custodis Chimney Construction Co. The bottom 100 feet of the stack is lined with firebrick. Refinery waste gas, which is fired mainly in the units, shows a heat value of 1,800 B.t.u. per foot. The deficiency is made up with Grade C fuel oil having a heat value of 18,000 B.t.u. per pound. These boilers will be fired with six Coen Special combination oil and gas burners.

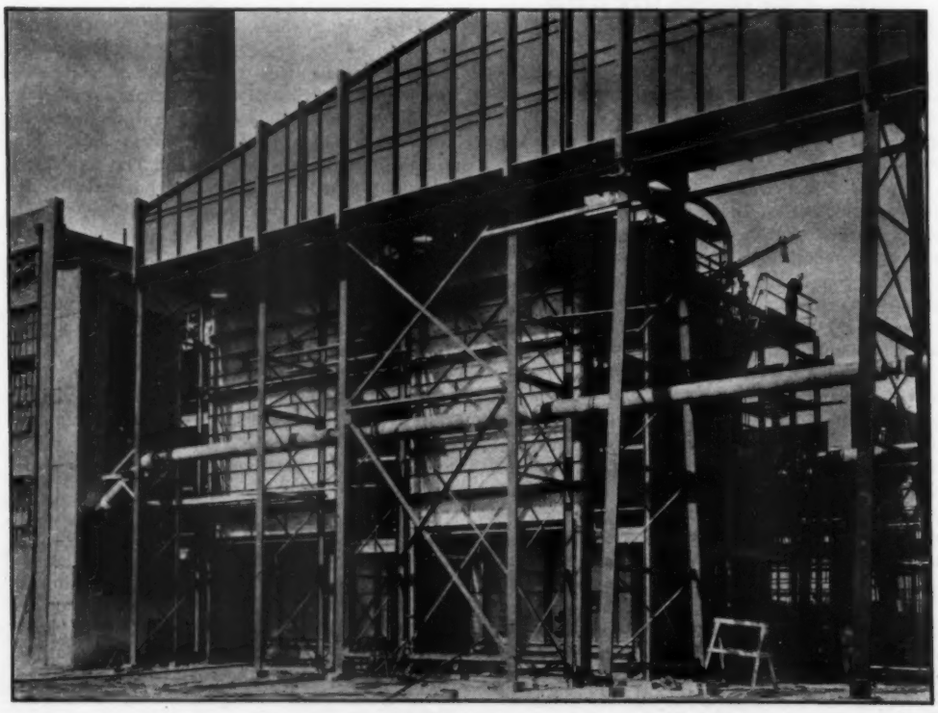


End view of one of the new boiler units with flue-gas duct shown at the upper left

The Vogt steam generators are of the conventional 4-drum semivertical bent tube design, equipped with an interbank superheater and incorporating a complete wall-type water cooled furnace. All walls are of the water cooled design with feeders placed under the combustion chamber floor. Each unit is equipped for continuous blowdown for controlling the concentration of boiler water. A sectional plan of the boiler units illustrating the furnace design is shown.

Since the important factor entering into the design of the boiler units calls for outdoor operation, without even the protection of the conventional sloping roof used on oil heaters, it became necessary that the boilers be designed so that all external surfaces should shed rain, and that all parts be adequately insulated for weather protection.

Another innovation of this installation is the use of steam washers, which is now being used by all large central generating stations. The primary use of these devices is the elimination of impurities which might be carried by the steam to the prime movers. The steam before leaving the boilers is completely washed with sprayed feedwater, then directed through a drying mechanism, to eliminate all particles of moisture. The steam washers serve the dual purpose of guaranteeing dry steam, as well as preventing carry-over into the steam lines. All of the steam washer apparatus is installed within the steam drums of the boilers. Metering is accomplished by means of Bailey steam flow, air flow boiler meters.



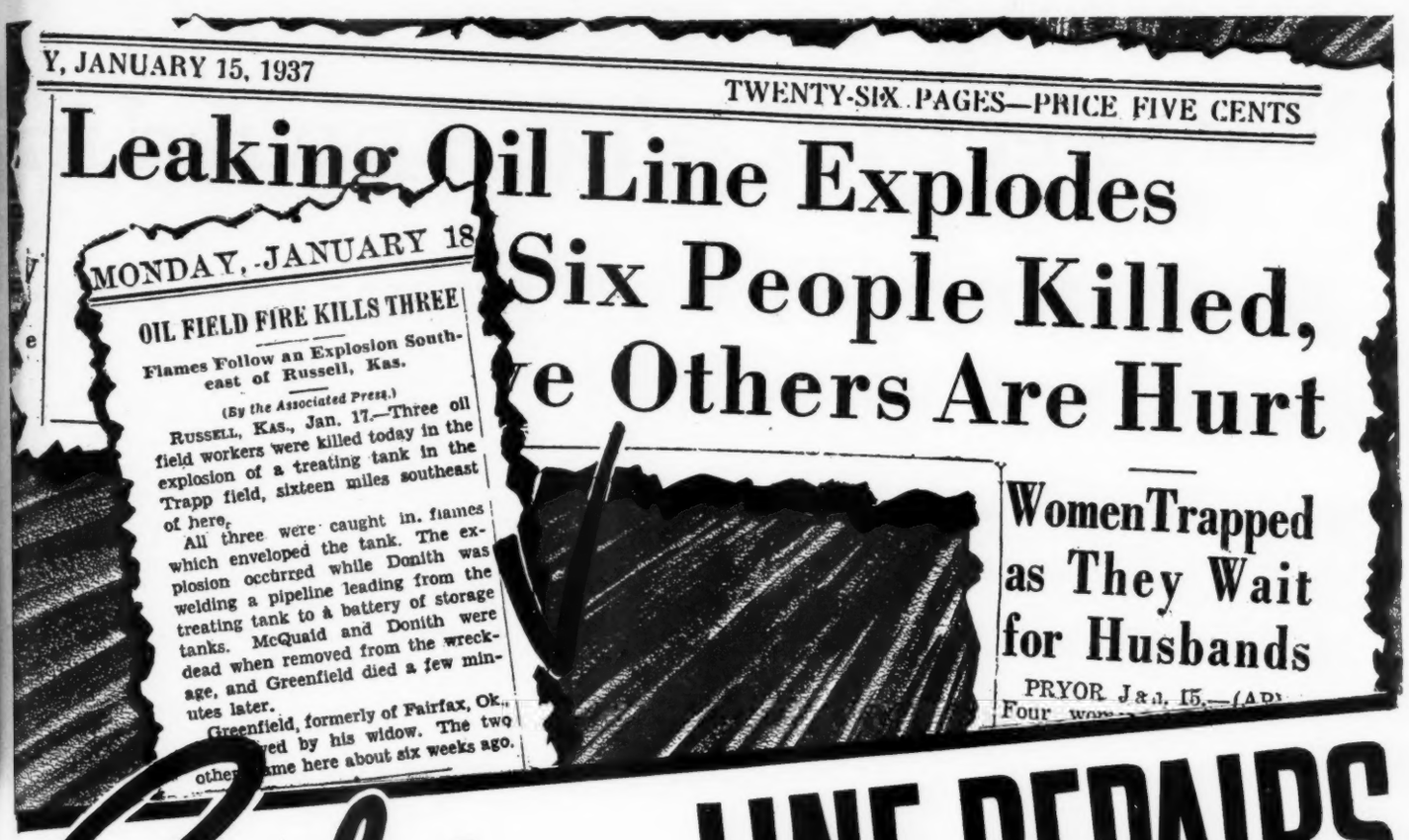
This view of the completed boiler units clearly illustrates the open type of construction. With the addition of weather-proof insulation, the two units will be ready for operation

ROTARY-DRILL SAMPLES

(Continued from Page 44)

sometimes drying which is carried on before samples are sacked and labeled. Washing is supposed to consist of a rough washing to remove rotary mud, but some drilling crews do such a thorough job of it that the usual washing in the company's sample laboratory is not necessary. There is a division of opinion on the desirability of drying samples at the well. Most samples are dried on contrivances which vary from a board or piece of iron to shelves with compartments. Drying is done at the boiler or engine (in the case of a mechanical rig) or over a stove. Some companies prefer to omit drying for several reasons and, after washing samples are sacked and hung up in such a way that labels will not be defaced.

In conclusion it can be pointed out that sampling methods in Oklahoma have developed as they have because of the leadership of a few men who foresaw that the important objective was the raising of standards for taking of samples from all wells rather than the perfection of methods for sampling one well; for the benefits of sampling affect the exploration and development of large areas.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TWENTY-SIX PAGES—PRICE FIVE CENTS
Leaking Oil Line Explodes
Six People Killed,
e Others Are Hurt
MONDAY, JANUARY 18
OIL FIELD FIRE KILLS THREE
Flames Follow an Explosion Southeast of Russell, Kas.
(By the Associated Press.)
RUSSELL, Kas., Jan. 17.—Three oil field workers were killed today in the explosion of a treating tank in the Trapp field, sixteen miles southeast of here.
All three were caught in flames which enveloped the tank. The explosion occurred while Donith was welding a pipeline leading from the treating tank to a battery of storage tanks. McQuaid and Donith were dead when removed from the wreckage, and Greenfield died a few minutes later.
Greenfield, formerly of Fairfax, Ok., ved by his widow. The two
ame here about six weeks ago.
Women Trapped
as They Wait
for Husbands
PRYOR Jan. 15.—(AP)
Four
the women, all
wives of workmen, were
trapped in their motor cars as
flames leaped up from the pipe line,
enveloping their automobile.
The women had driven out to the
scene of the work and were preparing to return to their homes with
their husbands after the work was
completed.
Reports here said leaking oil became ignited from an acetylene
torch being used in welding operations.
Bodies of the victims were brought
to a funeral home here

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Photoelectric Cell Is Applied in Locating Water Intrusions

By H. GUYOD
Chief Engineer, Schlumberger Well Surveying Corp.

The first water flow determination made by the Photoelectric process in Mid-Continent proved very profitable to the operator and the real value of accurate location of water flows in wells is now of great interest to all producing companies. Although a great deal has been done in California and in some foreign fields in locating water flows, the Mid-Continent and Gulf Coast areas have not in the past had available equipment to render this important service. As a result large sums of money and a great deal of time have been lost, and in some cases wells have been abandoned for lack of accurate information of water intrusion.

This instrument is an adaptation of the photoelectric cell to the location of a flow of clear water into a muddy water in the well. It will determine with a fine degree of accuracy the place or places of entrance of formation water, whether saline or fresh, without the use of chemicals. As the name indicates, the instrument uses a photoelectric or light-sensitive cell. Light falling upon the cell causes it to generate a current within itself which can be noted on a meter. When the volume of light striking the photoelectric cell varies, the current generated fluctuates proportionately and the meter records the fluctuations.

Conditioning the Well

Formation waters are usually clear. To condition the well preparatory to running the photoelectric instrument, mud is dumped with a bailer or circulated with slush pumps. This clouds the water in the hole except at the place where clear water is entering.

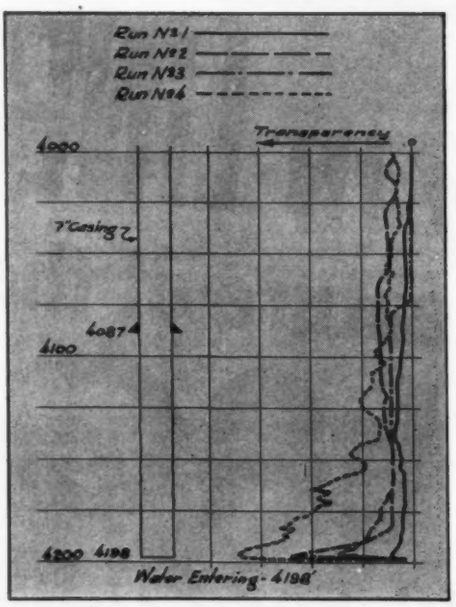
A test run of the instrument is made after conditioning the hole to determine the uniformity in translucency of the fluid. While the instrument is descending in the hole fluid is constantly passing through a channel in the body between an electric lamp and the photoelectric cell. The muddy water with which the well has been conditioned retards the passage of light sufficiently to cause the meter, located at the surface, to register a low reading in light units.

In order to permit the clear formation water to enter the hole, the hydrostatic head of the fluid column is lowered by bailing or swabbing out a portion of the fluid. As the instrument approaches the place where the clear formation water is entering the well and diluting the muddy conditioning fluid, the fact is instantly indicated by a higher reading of the meter. The reading continues to mount higher, reaching maximum at the actual sources of the water, which is of course, the point of greatest clarity. Immediately on passing this zone the meter drops to the normal reading for the conditioning fluid in the well.

The presence of oil in the well fluid does not hinder the operation of the instrument for oil tends to retard the passage of light from the lamp to the photoelectric cell.

Conductors lead from the photoelectric cell to the conductor cable on which the instrument is run. A measuring device attached to the cable simultaneously records the depth of the instrument in the hole. While the instrument descends at a steady, controlled speed the continuous recorder charts the fluctuations of the current set up in the photoelectric cell and the depth at which they occur on coordinate paper.

The results of a run can be checked easily and quickly with this instrument in all cases without further conditioning of the hole. By moving the instrument up and down past the indicated source,



Water flow location as determined by the Photoelectric process for Transwestern Oil Co. No. 1 Reed in the North Sasakwa field

the conditioning fluid is mixed with the entering water. Then, starting the check run at some distance above the point being checked, the instrument is lowered at normal testing speed, again charting the fluctuations in the current generated in the cell as it approaches the zone of greatest clarity. This process may be repeated any number of times, and may be employed at each zone if more than one source of entering water is indicated by the first runs.

In February, 1937, the Minnehoma Oil & Gas Co. operating the J. Paul Getty and others' Masters lease in the Fitts pool, Oklahoma, brought in No. 2 Masters for an initial natural production of 467 bbls. of clean oil in 12 hours from a total depth of 3,854 feet in the Hunton lime topped at 3,730 feet. The Hunton chert immediately overlying the lime was encountered at 3,714 feet and casing was set at the top of the chert. After the initial test the well was acidized with 3,000 gallons of acid following which the production dropped to 2 or 3 bbls. of oil per hour with a large quantity of salt water. The well was killed and a cement plug placed from bottom to 3,796 feet. This did not change the water production materially as the volume of water remained approximately the same.

Company engineers decided to make a water-flow location with the photoelectric instrument and this special equipment was rushed to the well. This process requires that the well be conditioned with muddy water which will be a contrast to the clear formation water entering the hole when the hydrostatic head is reduced. Although the well was heading and it is usually desirable to circulate conditioning fluid under similar conditions, it was decided to spot the mud through water in the hole with a special bailer used with the process.

Determining Point of Intrusion

During the survey the well would head about every two hours and conditioning had to be repeated several times before an opaque conditioning run was obtained. The fluid level was reduced by bailing and several runs made with the instrument which definitely indicated by the increased translucency of the fluid that water was entering at 3,730 feet. This proved to be at the base of the chert at the top of the Hunton lime, 18 feet below the casing shoe.

In repairing the well, the hole was filled with crushed limestone to 3,740 feet and a blank liner set from 3,645 feet to 3,740 feet and cemented in place. Ample time was allowed for the cement to set before drilling out. When tested it was immediately evident that the water had been completely shut off. The cement plug in the bottom of the hole was therefore drilled out, the walls scraped and 96 holes shot into the walls with a perforating gun where the plug had been set. After reacidizing with 10,000 gallons the well was completed for a potential of 2,131 bbls. of clean oil and 2,000,000 feet of gas per day through 2½-inch tubing.

Another interesting job was done in the North Sasakwa field, Oklahoma, in an old pumping well. This well was producing approximately 250 bbls. of water and 16 bbls. of oil per day. Attempts were made to plug off the water by placing a lead-wool plug in the bottom of the hole, but the well continued to produce about the same amount of water.

A water-flow survey was made and the water was found to be entering around the lead plug at 4,198 feet. Two feet more of lead wool was driven in place and when placed on production the well made 80 bbls. of oil and 16 bbls. of water.

The results of these very successful jobs give an example of the effective seal that water, until it is shut off, makes against the entrance of oil from the formation. In fields, especially those producing high gravity oil, the elimination of water is all important to the successful completion of a satisfactory well.

Photo courtesy MOLY MATRIX

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Fig. 3
Yoke takes bracket at largest block

Fig. 4
Remove one bolt to connect with block

Fig. 5
Links cannot "jump" the hook

Fig. 6
Convenient lock to prevent rotation

Fig. 7
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Fig. 8
A guide for picking up swivel bail

Fig. 9
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The illustrations will give you an idea of the efficient design and construction of BJ TRIPLEX HOOKS, but you will never realize their convenience, and how they safely speed up operations, until *your own crews* start bragging on them.

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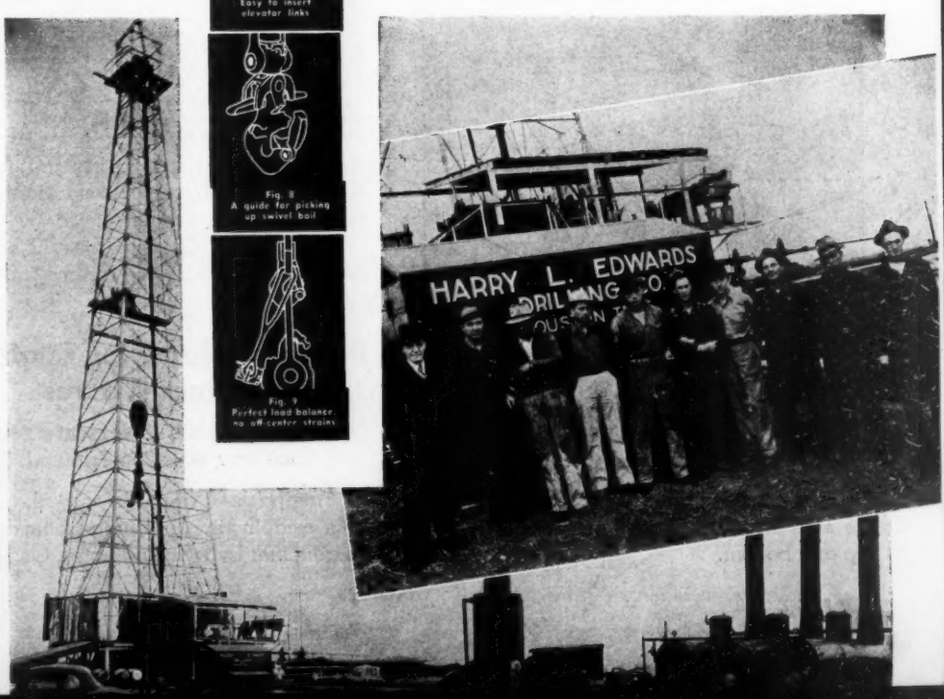
BJ TRIPLEX HOOKS

This picture of Mr. Edwards and some of his "gang," was taken in the Gillock Field, Galveston County, Texas. BJ equipment included a "300" Triplex Hook; BJ Weldless Link; Type G Elevator for handling External Upset Drill Pipe; BJ Rotary and Casing Tongs; BJ Side-door Slip Casing Elevator, also . . .

. . . the BJ Type J "Single Joint" Elevator—which obsoletes rope slings — and a Type K-Kelly Connection Elevator. *It will pay you to find out more about these last two products by looking in your 1937 Composite Catalog, or in the BJ Catalog which we will gladly send you.*



BYRON JACKSON CO.
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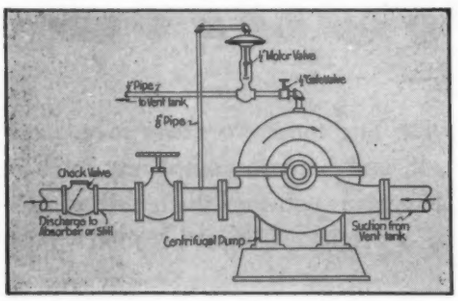
Operating Kinks in Natural Gasoline

Automatic Method for Pump Priming

B. F. GILSTRAP, repairman
J. E. Crosbie, Inc., Fittstown, Okla.

When the pump kicks off, the pressure held by the check valve in the discharge line,

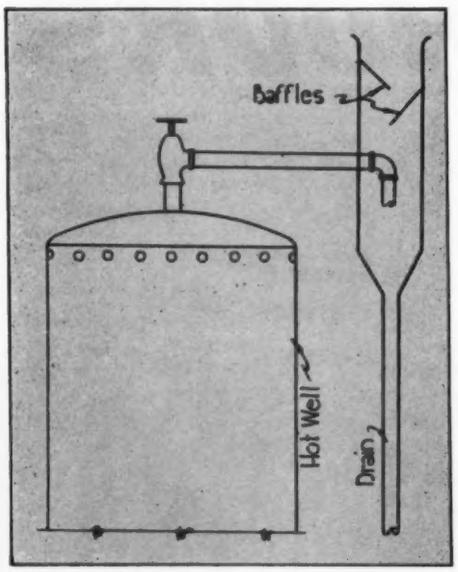


drops to zero, allowing a half-inch motor valve to open, thus opening a half-inch bleeder line. When the centrifugal pump picks up, the pressure created in the discharge line, by direct connection through the eighth-inch copper tube to the motor valve, closes the motor valve on the bleeder line. This device has saved packing and in one case it clearly saved the price of a motor.

Safety Relief Drip Pan

JESSE GLISSON, engineer
Skelly Oil Co., Carter Nine, Okla.

When using relief valve on hot well tank, steam is popping to the air most of the time. Sometimes it is impossible to close the discharge of the relief valve due to freeze-up or gases. We built a square steel box with baffles to prevent condensate from carrying over the side of the tank and a drain was installed. The box was set at the distance required to take care of the condensate; then

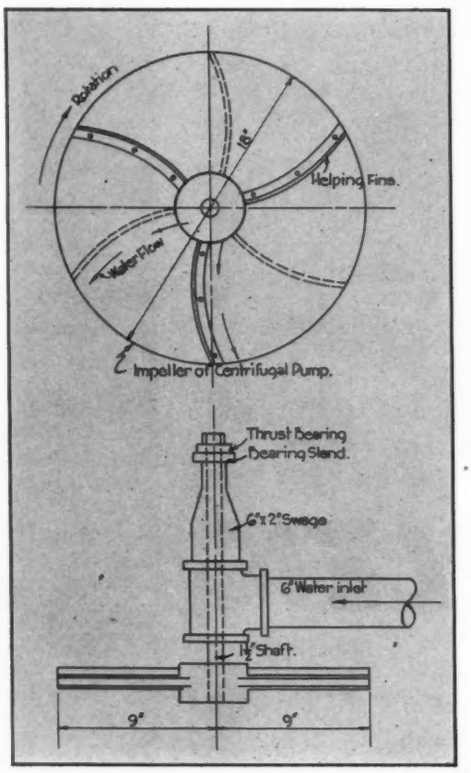


the relief valve discharge was connected into the side of the box about midway between top and bottom.

Water Distributor

J. F. STEED, plant superintendent
Phillips Petroleum Co., Frankell, Tex.

This water distributor is used on a 14 by 14-foot engine water tower 22 feet high, having six sets of baffles, the top baffle being 2 feet below the water distributor. The speed of the impeller may be varied by the setting of the small helping fins. These fins should be made and attached to the outside of the impeller. It is not necessary in the construc-



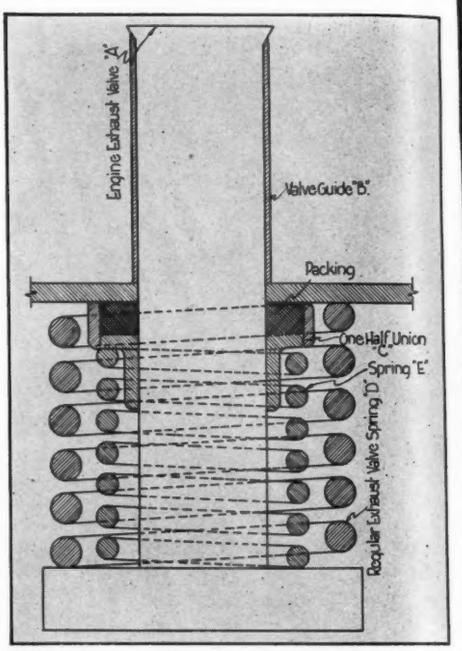
tion of the distributor to use the centrifugal impeller but you may use an old disc about the size of the impeller.

The bearing seat is so constructed that the bearing may run in oil requiring no attention.

Packing Gland for Engine Exhaust Valves

JEFF L. HAMILTON, chief engineer
Lone Star Gas Co., Trinidad, Tex.

This packing gland keeps exhaust gases from escaping into the engine room and it acts as a muffler by reducing noise. One-half of a union and a union ring (C) were screwed together, filled with packing, slipped over the

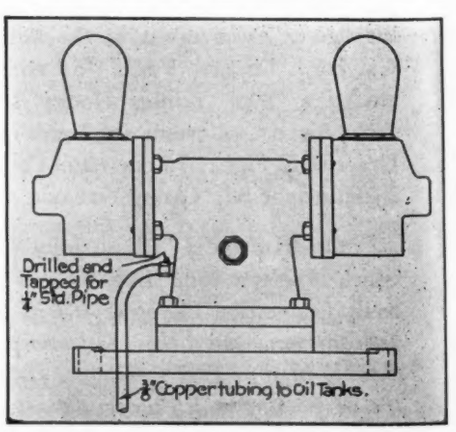


valve stem (A) and held in place by a spring (E) which fits inside the regular exhaust valve spring (D) as shown in the sketch.

Oil Drain

NOEL L. DALTON, repairman
Phillips Petroleum Co., Edmond, Okla.

This oil drain saves in down time, expense of repacking pump, oil wasted, and helps in



keeping floors clean. This sketch shows an outline of the type "FF" Bowser oil pump used

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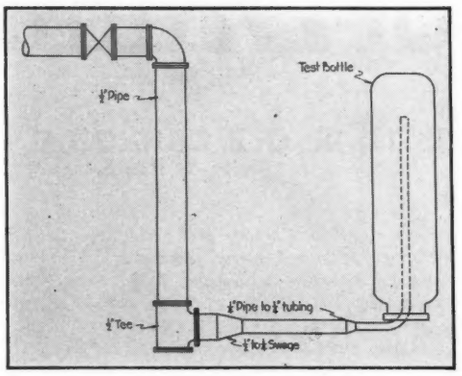
as standard equipment on all Clark single and twin engines except the later models.

The stuffing box that seals the pump crankcase around the gear shaft also serves as a bearing for the gear shaft. This bearing carries all of the strain necessary to drive the pump; after it becomes slightly worn it is almost impossible to make packing hold for any length of time, resulting in the loss of a considerable amount of oil from the engine crankcase system which makes an unsightly mess on the floor around the engine. By drilling the pump crankcase at a point below the level of the stuffing box, the oil that leaks by the piston is drained back into the engine crankcase through a length of three-eighths inch copper tubing.

Due to the design of the piston the oil leaking by the rings will run down over the gear segment and shaft, lubricating all moving parts before entering the drain.



Test Bottle Cleaner

FRED L. FENDER, chemist
Phillips Petroleum Co., Bryant, Okla.

As a safety factor, the copper tubing prevents a friction hold on the bottle neck while it is being removed, thus preventing the bottle from breaking in the hand. This device eliminates shaking the bottle when washing thus reducing the hazard due to acids thrown or blown in the face and on the hands and clothing. It is a substantial rack as well as a drain for the bottle when not in use, thus preventing breakage from unnecessary handling and allows the bottle to drain clean for the following test. We have used this device at the plant for taking doctor tests since July, 1933; during this period only two bottles have been broken.

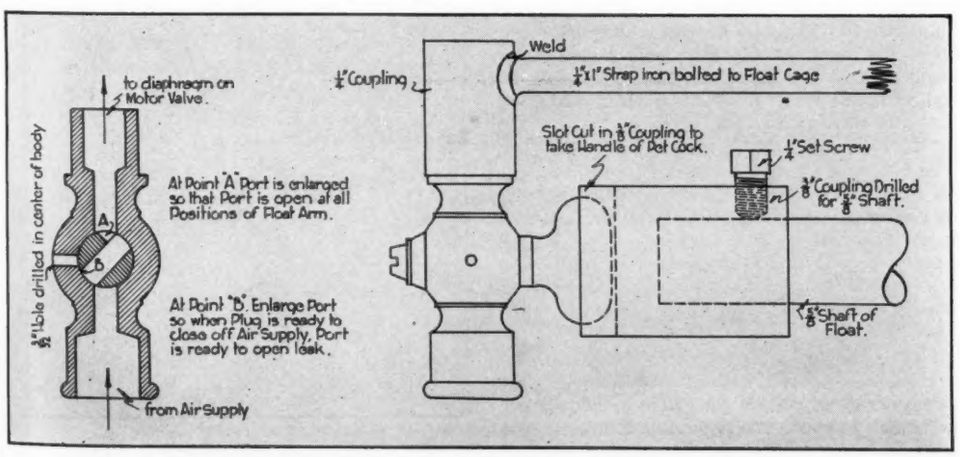
When the bottle is being washed the water is allowed to flow from the lower outlet of the half-inch tee. By placing a finger over this outlet the pressure to the bottle is controlled.

Pilot Control Valve Made With Pet Cock

NOEL L. DALTON, repairman, Phillips Petroleum Co., Edmond, Okla.

This simple and effective pilot control valve is made from a quarter-inch pet cock. The amount of air required to operate it is very small. It is self venting, non-sticking, does not get out of adjustment and is inexpensive to build and install. It is practically trouble free due to its self-venting operation and its rotary action.

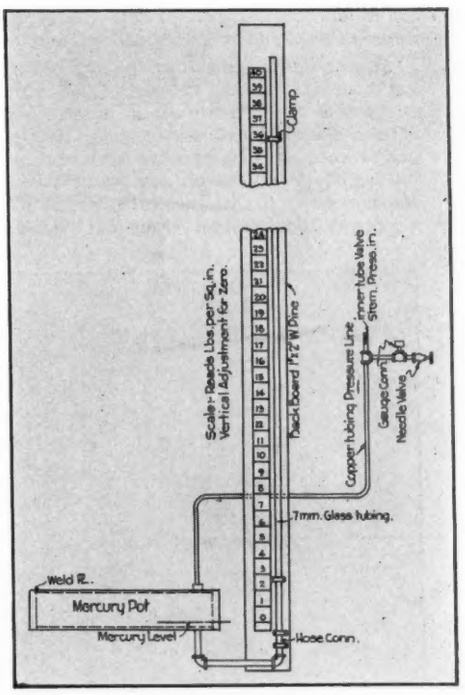
The valve is connected to the kidney float by a five-eighths inch shaft which is held in place in a coupling by a set screw. A slot is cut in the end of the coupling, into which fits the pet cock handle. The discharge port of the valve has been enlarged so that this port is open at all positions of the float arm. A three-thirty-second inch hole drilled in the center of the valve body serves as a vent. The port at the suction end of the valve has been enlarged so that, when the plug is ready to close off the air supply, this port is ready to open the leak provided by the three-thirty-second inch vent hole. As a result of changes made in ports of the pet cock, the proper control is obtained and leakage of air past closed valve is prevented.


to diaphragm on Motor Valve.
3/32" Hole drilled in center of body
A
B
At Point "A" Port is enlarged so that Port is open at all Positions of Float Arm.
At Point "B" Enlarge Port so when Plug is ready to close off Air Supply, Port is ready to open leak.
from Air Supply
¼" Coupling
Weld
¼"x1" Strap iron bolted to Float Cage
Slot Cut in ⅜" Coupling to take Handle of Pet Cock.
¼" Set Screw
⅜" Coupling Drilled for ⅜" Shaft.
⅜" Shaft of Float.

Mercury Column Vapor-Pressure Gauge Tester

R. L. MITCHELL,
assistant plant superintendent
Empire Oil & Refining Co., Konawa, Okla.

This gauge tester provides an accurate, simple and inexpensive method of maintaining the accuracy of vapor pressure gauges without the expense of deadweight testers at each plant and loading rack. The gauge tester, having been checked over and tested for leaks, is "zeroed." The gauge to be tested is screwed into the gauge connection indicated on the print. Air is forced into the copper tubing through the opening labeled "inner tube valve stem" until the mercury column rises to an indicated reading in pounds equivalent to the pressure limit of the gauge being tested. The reading of the gauge is then compared with the reading of the mercury column. By opening and closing the needle valve near the gauge connection, the mercury column can be reduced at intervals to all points on the scale, and the gauge calibrated in accordance therewith.



Standard Practices for Field Testing of Drilling Fluids

By C. E. REISTLE, JR., G. E. CANNON, R. C. BUCHAN
Humble Oil & Refining Co., Houston, Tex.

The successful completion of wells drilled to deeper horizons where high gas and water pressures may be encountered necessitates careful preparation and control of the drilling fluids.[1, 2] The prerequisite of proper mud control is the accurate determination of the various mud properties in order that desirable characteristics can be built into the drilling fluid. In the past operators have used numerous methods and apparatus to determine individual properties of mud; and each has, in most cases, selected for his own use some one test for each mud property.[3] In discussing mud properties, the lack of standard tests makes it difficult to correlate or understand the results obtained with varying types of mud in different areas and by individual operators.

In an effort to standardize the methods of testing muds, the Houston Chapter of the Institute's Division of Production made an extensive study of the subject, and proposed a standard on methods, instruments, and nomenclature for testing rotary-drilling fluids. Although this work stimulated standardization in that area, it has not resulted in a general standardization throughout the industry.

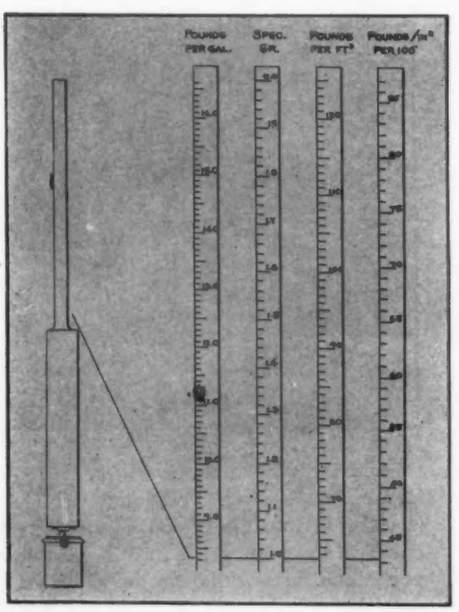


Fig. 1—Relation between various mud hydrometer scales

The subject of standardization of mud tests, with particular attention to field testing, was studied by the Division of Production's Topical Committee on Drilling Practice at the Chicago meeting in November 1936, and a tentative code was adopted. It is possible to standardize the tests for determining mud weight, viscosity, gelation, sand content, and acidity and alkalinity. In some drilling operations, other properties of the mud must be considered; however, in most cases mud control can be confined to those properties listed above.

Since most operators are familiar with the problems involved in attempting to arrive at standard tests suitable for all conditions, the authors have attempted to confine themselves to the more pertinent questions which arise in selecting test methods.

***A.P.I.*—Presented before the mid-year meeting, June 1 to 3, Colorado Springs, Colorado**

Density of Drilling Fluid

Much has been written in the past in regard to the necessity of maintaining a certain hydrostatic head against the formation to prevent gas and water infiltration into the hole being drilled.[4] This hydrostatic head must be greater than the formation pressures encountered, since the effect of swabbing[5] (when removing the drill stem), gas-cutting, and variations in fluid densities must all be overcome by increasing the over-all density of the drilling fluid.

Various methods of measuring density, or weight of a given volume of mud, have been used in the field; but at this time the mud hydrometer, illustrated in Fig. 1, is generally accepted as the best and most reliable equipment available for making this determination. The instrument requires occasional calibration, which is readily accomplished in the field.

Before this type of mud hydrometer came into common use, operators weighed a given volume of fluid with spring-type scales or balances. The scales and balances were hard to keep in good repair. The capacity of the buckets varied considerably from their intended capacity. Many careless practices inherent in the use of these instruments contributed to very inaccurate determinations.[6]

As far as the units of measurement are concerned, there has been a varied practice—with most operators using pounds per gallon or pounds per cubic foot as units. The suggestion has been made that the density be expressed in pounds per square inch pressure that would be exerted by a 100-ft. column of the fluid. This appears clumsy, and might require a little education; but it should make field men more pressure-minded, and would make calculations in drilling-fluid much simpler. The numerical relation of different units is shown in Fig. 1. Instead of reporting that a mud weighs 10.0 lb. per gal., or 75.0 lb. per cu. ft., we would report a density of 52. The calculated hydrostatic head in the bottom of a 6,000-ft. well full of this fluid would be 60 times 52, or 3,120 lb. per sq. in.

Viscosity of Drilling Muds

One of the most important properties of a drilling mud which should be controlled is its viscosity, being best defined when applied to drilling mud as that property which determines its rate of flow under specified conditions. Since some muds are thixotropic, and practically all muds have the ability to form gels, any viscosity unit which is applied is meaningless unless the conditions of measurement are carefully controlled and definitely stated.[7]

A very good discussion of the meaning and measurement of viscosity of drilling muds is found in Vol. XXXII of the *Transactions of the Mining and Geological Institute of India*, and this publication is recommended to those who wish to go more into detail on this subject than it is possible to do in a limited discussion of this kind.

The viscosity of drilling mud, to a large extent, controls the rate at which it can be circulated. This is very important in relation to the drilling rate.

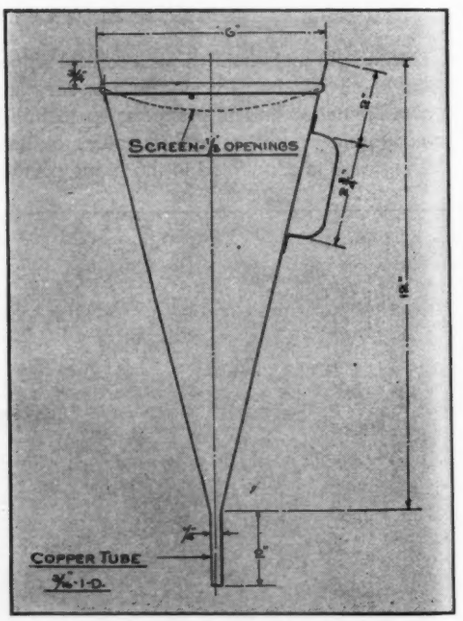
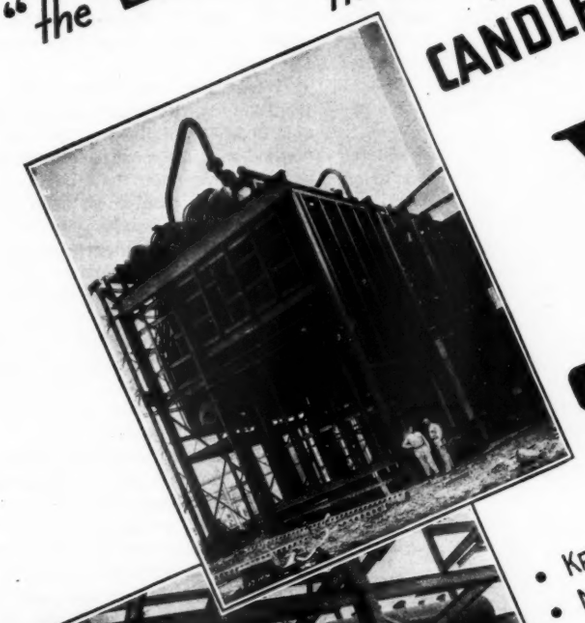


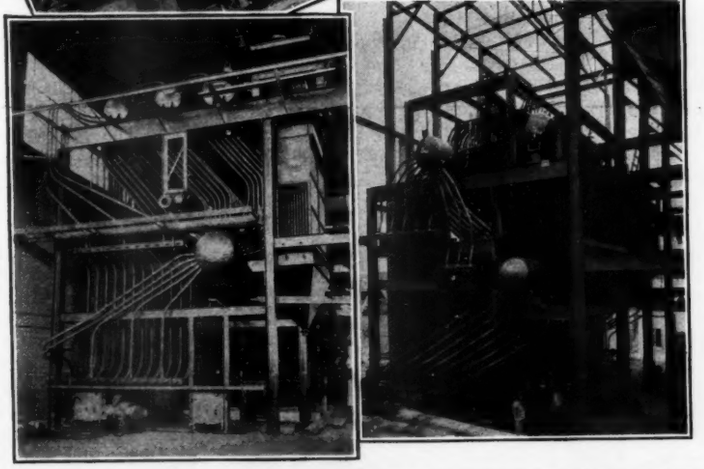
Fig. 2—Marsh funnel viscosimeter

The settling of sand and cuttings, as well as the release of gas, may be governed by the viscosity of the mud. The gel rate and strength of the mud also affect the settling rate of the cuttings and liberation of gas from the mud; but, in general, it is impossible to change these properties without changing the apparent viscosity. It is indeed regrettable that in our viscosity measurements we

"the BUTCHER— the BAKER— the CANDLE-STICK MAKER" come to

Vogt for STEAM BOILERS





Typical Installations:

- KROGER GROCERY & BAKING CO., Cincinnati, O.
- NORTHERN STATES POWER CO., Minot, N. D.
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are unable to eliminate the gelation effects; thus the term "apparent viscosity." It is also necessary to control the viscosity of muds while porous formations are exposed into which returns could be lost. In wells where a mud of high density is required, there is a tendency to lose mud into porous formations which would not take mud at normal

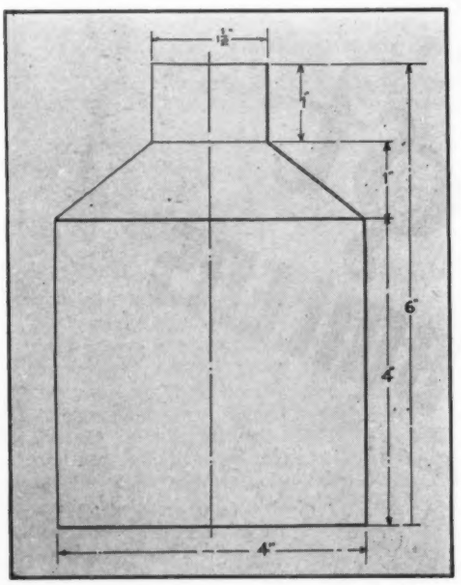

Fig. 3—Receiver for Marsh funnel

pressures. The latter condition often taxes the ingenuity of the operator; for in these wells it is desirable to have a low viscosity for the release of gas and to minimize circulating pressures and, paradoxically, to have a high viscosity to prevent the loss of returns.

Numerous viscosimeters have been adopted from other industries, as well as developed by workers in the petroleum industry, for measuring the viscosity of mud.[8, 9] The concentric-cylinder types and the capillary-tube types are most suitable for mud work, and the form adopted depends upon the nature and use of the information required. In laboratory research work it is believed that the concentric-cylinder instrument and, most specifically, the Stormer viscosimeter, are more suitable. In field control work, the capillary-tube and, specifically, the "Marsh-type" funnel, have proved satisfactory.

In using the Stormer viscosimeter, the reading at 600 r.p.m. has been discussed by Loomis, Ambrose, and Kennedy; and most operators use this speed as the standard when reporting their data.[10] However, as has been pointed out by many authors discussing the subject of viscosity, the viscosity differences between different drilling muds are minimized at high rates of shear. A true picture of the viscosity changes and the differences in two muds can only be obtained with the Stormer viscosimeter by measuring the viscosity at several rates of shear and plotting a curve between viscosity and shearing rate. By extrapolating this curve to the driving-force axis, a "yield value" is obtained.[11] If an attempt is made to measure the "yield value" by adding weight until the inner spindle moves, a different value is obtained. This would be expected, however, since the conditions of measurement are different, and both values may be taken as correct if the conditions of measurement are stated. Other types of concentric-cylinder viscosimeters have been used, in most of which the outer cylinder is rotated at a known rate and the deflection of the inner cylinder, which is usually suspended by a torsion wire, is measured. This type of instrument has not been widely used by the industry. However, its use is becoming more prominent; and, in cases where it is desired to measure changes in viscosity due to long periods of agitation, an instrument of this type is desirable.

The capillary-tube viscosimeters can be divided into two general types: 1, those which do not require any external pressure; and, 2, those which do require an external pressure. The capillary instrument which has been most widely used is the Marsh funnel-type viscosimeter which does not require any external pressure. Several articles have been published on the viscosity of muds as measured with the capillary tube or orifice on which an external pressure was applied.[12] However, as far as is known, its use has been limited to the laboratory, and the data were not as satisfactory as those which can be obtained with other types of instruments.

A sketch of the Marsh-type funnel viscosimeter is shown in Fig. 2 and 3. This viscosimeter is being used at most drilling operations in this country where any attention is being given to mud control. The operators have been able to agree on the dimensions of the funnel. However, the method of testing varies in different localities, and in many cases from well to well in the same locality. Some operators prefer to fill the funnel and check the time required for all of the mud to run out, or until it starts dripping; some operators measure the time for 1,000 cc. to run from a full funnel; some allow only 500 cc. to run from a full funnel;

TABLE 1

Mud No. 1:
Viscosity—full funnel, drained to drip point.
Run No. 1—80 sec. to drip point.
Run No. 2—86 sec. to drip point.
Run No. 3—87 sec. to drip point.
Viscosity—full funnel, 1,000 cc. efflux.
Run No. 1—34 sec., 1,000 cc. efflux.
Run No. 2—34 sec., 1,000 cc. efflux.
Run No. 3—35 sec., 1,000 cc. efflux.

Mud No. 2:
Viscosity—full funnel, drained to drip point.
Run No. 1—105 sec. to drip point; dripped for 25 sec., 40 cc. of mud remained in funnel.
Run No. 2—85 sec. to drip point; dripped for 50 sec., 65 cc. of mud remained in funnel.
Viscosity—full funnel, 1,000 cc. efflux.
Run No. 1—41 sec., 1,000 cc. efflux.
Run No. 2—41 sec., 1,000 cc. efflux.
Run No. 3—41 sec., 1,000 cc. efflux.

while others place only 500 cc. in the funnel and measure the time required for the 500 cc. to run out. Any one of these methods will show changes which might take place in a given mud from day to day, provided the procedure for running the test is consistently the same.

In the Gulf Coast area, it is standard practice to fill the funnel level with the screen, and measure the time required for the discharge of 1,000 cc. In the California area the receiving cup full of mud is dumped into the funnel, and the time is measured until the stream from the funnel changes to a drip. In comparing the two methods on two samples of Gulf Coast mud, the data in Table 1 were obtained. Mud No. 1 was a natural mud considered to be in good condition with a low viscosity, and mud No. 2 had a relatively high viscosity. By studying these data it is obvious that the same reading might be obtained for the apparent viscosity of two different viscosity muds by using the California method. This is possible in that the the California method inadvertently includes in its viscosity determination much more of the effect of the gelling properties than is included by the Gulf Coast method. The Gulf Coast, or "full-funnel," method has been proved satisfactory by long continued use on all types of drilling fluids.

When this same analysis was applied to California muds, the data presented in Table 2 were obtained. It will be noticed that the drop-point method gave the most consistent results. It is evident, however, that the muds were of an entirely different type from those used in Gulf Coast operations, as the heaviest muds used in the Gulf Gulf Coast of the non-gelling type will not give readings of 19-22 sec. when 1,000 cc. is allowed to flow from a full funnel, having dimensions as shown in Fig. 1. Where the "full-funnel" procedure is not used, the reduction in head results in a larger effect of gelation on the apparent viscosity. This is not desirable in a viscosity determination of this type, and attempts should be made to determine gelation separately.

In determining viscosities, it is considered good practice to make a second determination for evaluating the gelling characteristics of the mud, and this test will be discussed later. By following such a procedure a practical, yet simple, continuous correlation of these properties is possible.

Oftentimes viscosity data are used in reports and discussions, and only the time required is stated without mentioning the procedure used. This leads to confusion. For example, referring again to Table 2, when the statement is made that a mud had a viscosity of 34.8 sec., it could be the thin mud, just stirred under "A," or possibly the thick mud. In an attempt to clear up confusion of this kind, the drilling-practice committee has proposed standard mud tests and nomenclature; and, in dealing with viscosity as determined with a Marsh-type funnel, it has been proposed to use a full funnel and measure the time required for the discharge of 1,000 cc. There is a strong sentiment in the committee in favor of the procedure described as the Gulf Coast or "full-funnel" method.

Sand Content

Sand and fine cuttings carried by drilling fluids are abrasives, and in most cases the problem is merely one of keeping the sand content as low as possible. It is not generally accepted that there is a need for determining the fineness of the sus-

TABLE 2—A COMPARISON OF THE PRESENT AND PROPOSED METHODS OF USING THE VISCOSIMETER

Material	Condition—	California Practice		Proposed API Practice	
		Viscosity	Average Viscosity	Viscosity	Average Viscosity
	Thick	....	....	35.2	....
		77.8	....	36.2	....
	Just stirred	78.8	78.6	36.5	36.0
		79.2	....	36.2	....
"A"	Thick	105	....	62.5	....
(Gelling)	Stirred and allowed to stand 2 min. in funnel	105	104.3	65.0	63.7
		103	....	....	....
	Thin	34.8	....	22.0	....
	Just stirred	33.9	34.0	22.0	22.0
		34.3	....	22.0	....
		33.2	....	22.2	....
	Thinner	29.4	....	20.1	....
	Just stirred	28.8	29.1	20.4	20.4
		....	....	20.6	....
	Fairly-thick	....	....	35.0	....
		84	....	41.2	....
	Stirred	83	84	36.5	37.9
		85	....	39.1	....
"M"	Thin	30.8	....	18.5	....
(Non-gelling)	Stirred	30.7	30.9	20.0	19.3
		31.2	....	19.5	....

pended sand. There has been little work done on the economic value of sand-free muds, but it is believed that methods used in the past for determining sand contents are satisfactory for any future studies. These methods fall into two classes, viz.: elutriation or classification; and settling, either solely by gravity or by aid of centrifugal force. Either method is suitable for field use, and neither is considered so superior that the other should be excluded from a standard code. Preference has been shown for the classification method (equipment shown in Fig. 4). The sample of mud is diluted and washed in such a way as to remove all colloidal and very-fine material from the test tube, and to allow a reading of the amount of sand remaining. In the centrifuge method a sample of mud is diluted with water, and the sand centrifuged to the bottom of the tube.

Gelation—Gel Strength and Gel Rate

The control of the gelation properties of a mud is almost as important as viscosity control. In some cases it is desirable to use muds which develop strong gels, and in other cases muds whose gel properties are very weak are desirable. The suspension of heavy weighting material depends more on the gel properties of the mud than upon the viscosity. Likewise, sand and cuttings can be removed from the mud by lowering the gel properties without materially affecting the viscosity. The release of gas depends a great deal upon the gel characteristics of the mud. Also the ability to cement long strings of casing depends upon controlling the gel strength of the mud.

In dealing with gelation, the strength as well as the gel rate must be considered; and, as viscosity units are meaningless unless the conditions of measurement are expressed, so are any units applied to gelation unless they are coupled with a time factor. In many cases, the initial gel strength, or "yield value," is measured by extrapolating the rate of shear or rate of flow versus pressure curve to its point of interception with the pressure axis. The value obtained is being considered by some as an inherent property of the mud. However, such is not the case, as it depends almost entirely on the past history of the mud.

The "yield value" is sometimes evaluated by measuring the pressure (in the case of the pressure-type viscosimeters) or the force, where concentric-cylinder viscosimeters are being used—which is just enough pressure or force to start flow or to start one of the cylinders rotating. The values obtained are different in most cases from those obtained by extrapolation, usually being considerably higher and more representative of the conditions existing in the well.

The gel properties of a mud have also been measured by means of a duNouy surface-tension apparatus. The ring is immersed in the mud, and the force required to move the ring is determined. When this force is plotted against the time that the ring was allowed to remain undisturbed in the mud, a curve similar to that shown by Fig. 5 is obtained. It has been possible to establish a relation between this force and the amount of "swabbing" or pressure reduction which occurs when the drill pipe is withdrawn from the hole. It is believed that more accurate results are obtained when using a small screen, suspended vertically in the mud, instead of the platinum ring.

In field or control work, the tendency has been to use one viscosity measurement for determining the various properties of the mud. These single tests, of course, are indicative of changes in the general nature of a given type of mud; and, with very little experience, the driller is able to determine if the apparent viscosity of the mud is changing. Since the funnel viscosimeter is used in making this determination, tests have been devised whereby the operator is able to determine changes in the gelation of the mud with the same instrument. In doing this, at least two viscosity determinations are made: the first as soon as the funnel can be filled, and the second after the funnel has been filled and is allowed to remain undisturbed for a measured interval of time. The difference in

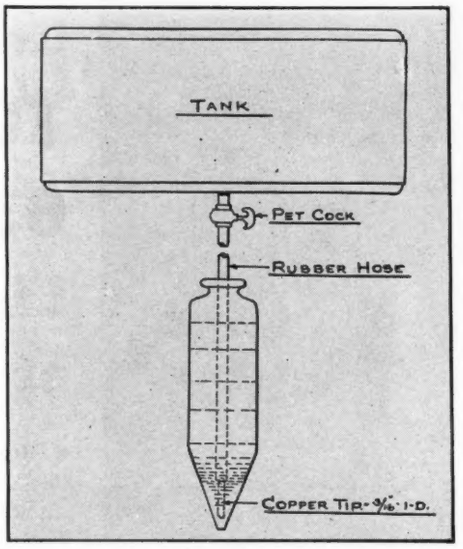

Fig. 4—Classification apparatus

the two readings is related to the gel properties of the mud, and within a very short time in a well or field where the type of mud is not radically changed it is possible to establish the desirable limit between the two readings.

Hydrogen-ion Determination

In some cases it is desirable to study the acidity or alkalinity of the drilling fluid in the field as well as in the laboratory. The hydrogen-ion concentration has been determined by colorimetric and electrometric methods, and the results expressed as the pH value of the drilling fluid. A colorimetric method, employing gelation strips impregnated with suitable indicators, is believed to be most adaptable for field use, and is as accurate as any method.[12] However, some operators prefer to use electrometric methods. A number of glass electrode instruments is available that are of durable construction, considering the nature of the equipment, and are easily operated. Regardless of the method used, it should be checked against known standards.

The tentative standard code for testing drilling fluids which was approved in principle, subject to changes after field use, by the Committee on Drilling Practice at its Chicago meeting, November, 1936, was also included in the authors' paper.

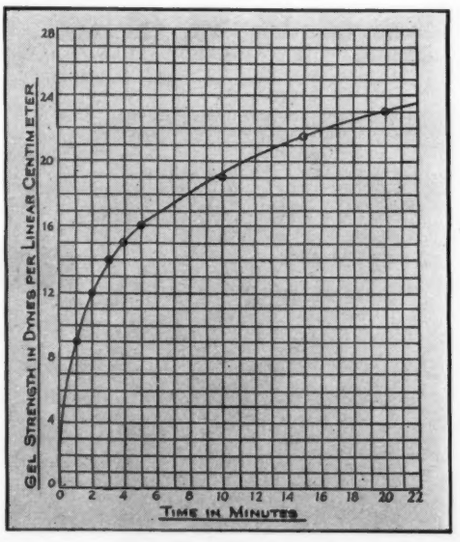

Fig. 5—Gelation vs. time curve for a typical Gulf Coast mud

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Variety of Minerals Discarded in Bromine Extraction Plant

Potential wealth valued at $96,379,460 at current prices was contained in 158,735,000,000 pounds of ocean water pumped through the bromine plant of the Ethyl-Dow Chemical Co. at Kure Beach, near Wilmington, N. C., during the past 12 months.

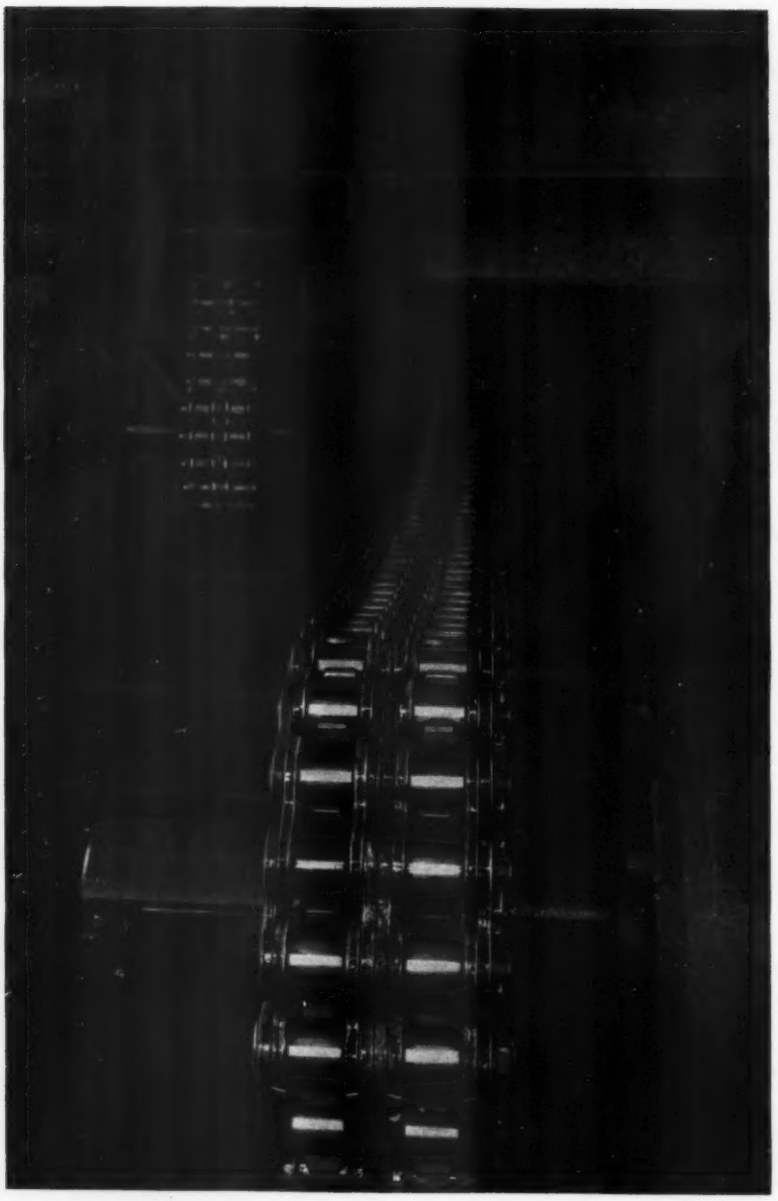
Only a small part of these riches was recovered in the form of several thousand tons of bromine to find its way into the gasoline tanks of millions of automobile drivers and tractor users as a component of Ethyl fluid. The remainder, including $42,000 worth of gold, $29,300 worth of silver, enough magnesium to build 100,000 modern airplanes, and a quantity of common salt sufficient to lay a paving 26 feet wide and a foot thick from New York to Washington, together with millions of dollars worth of mineral salts and other basic substances, flowed back into the sea via the Cape Fear River.

Two giant electric driven centrifugal pumps lifted a square mile of seawater 89 feet deep into the plant during the year, and after present construction at the plant is completed July 1, the annual figures will be approximately doubled, it is announced.

Practically every known material is dissolved to a greater or less degree in ocean water, according to Ethyl-Dow chemists. Besides providing an inexhaustible source of bromine, extraction of which constitutes science's first major step in recovering chemical wealth from the sea, the ocean forms the greatest storehouse of raw materials on the globe, it is said.

During the three years of operations at the plant, one square mile of water 229 feet deep has been treated in the process of extracting bromine. Present in this water were materials with a total tonnage of 7,539,679.46 which would bring at the current market $257,143,520. In addition to the bromine actually recovered, other substances passing through the plant and their values included:

Sodium chloride (common salt), 5,533,000 tons, $85,750,000; magnesium sulfate (Epsom salts), 1,403,000 tons, $53,300,000; calcium chloride, 304,600 tons, $6,700,000; potassium chloride, 157,750 tons, $12,620,000; magnesium, 126,000 tons, $88,200,000; aluminum, 359 tons, $150,750; strontium carbonate, 417 tons, $258,500; iron, 377 tons, $45,200; copper, 23.9 tons, $7,170; iodine, 8.35 tons, $26,700; silver, 4.08 tons, $76,000; gold, 0.13 tons, $109,200.



ABOVE—Link-Belt Double Width, Silverlink, Finished Steel, Roller Chain Drive from Pump Engine to Pump Countershaft and Drive from Pump Countershaft to Pump.

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Effect of Sweetening on the Properties of Gasolines

By W. A. SCHULZE and A. E. BUELL
Phillips Petroleum Co., Bartlesville, Okla.

Gasolines are given a sweetening treatment primarily to improve the odor. Depending on the nature of the gasoline and the method of sweetening, several other properties are also affected in varying degrees; and, unfortunately, the effects as a rule are in the wrong direction. Of these properties, octane number is probably the most important to refiners—not only because it is especially susceptible to adverse change, but because even small losses are reflected in costly increases in tetraethyl-lead requirements. Color stability, potential gum, and potential corrosion are other properties which are readily affected during the sweetening treatment. Since octane ratings are of especial significance at the present time, this paper deals mainly with this phase of the sweetening problem.

The effects referred to are not those obviously due to lack of proper facilities or occasional faulty procedure, such as loss of octane number because of weathering of the product during treatment in open agitators, or positive corrosion tests resulting from use of an excess of free sulfur in doctor treating, but rather those resulting from inherent limitations of the process, such as the occurrence of undesirable side reactions during the oxidation of mercaptans in an alkaline medium as in the doctor-treating process and its modifications.

Comparison of Mercaptan and Disulfide Solutions

Since the prime object of sweetening is the improvement in odor of the gasoline through conversion of the foul-smelling mercaptans to the less odorous disulfides, it can be determined whether or not there is any inherent necessity for accepting a loss in octane number as a result of sweetening, by comparing portions of a gasoline which have been dosed, respectively, with equivalent quantities of various mercaptans and the corresponding disulfides. Table 1 gives such a comparison for three of the most common mercaptans and disulfides. Several others have also been tested,

TABLE 1—RELATIVE KNOCK EFFECTS OF MERCAPTANS AND DISULFIDES

Compound Added	Amount as Sulfur (Per Cent)	Octane No.	Octane No. with 1 cc. Tetraethyl Lead per Gallon
None	.....	50.8	63.7
Methyl mercaptan	0 044	49 8	58 9
Methyl disulfide ..	0 050	49 9	58 9
Ethyl mercaptan ..	0 042	50 0	58 9
Ethyl disulfide ...	0 043	50 1	59 1
*n*Butyl mercaptan	0 040	49 9	58 9
*n*Butyl disulfide ..	0 038	49 9	58 8

and it appears that these results are typical of the entire group. In the tests reported in Table 1 sulfur compounds were dissolved in a substantially sulfur-free reference fuel which is a low vapor-pressure product of natural gasoline. The sulfur compounds were obtained from the Eastman Kodak Co., and were used without further purification. The sulfur contents shown in the table were those obtained on the prepared solutions by an extremely-accurate analytical method.

Since the results obtained on the mercaptan and disulfide solutions are so nearly identical, it may be concluded that, for all practical purposes, there is little difference between these two classes of compounds in their effect on octane number with or without tetraethyl lead. Especially when it is considered that the concentration of sulfur compounds in these solutions is greater than in most of the gasolines in which appreciable octane losses occur during sweetening, it is evident that the disulfides formed during sweetening cannot be responsible for this effect.

***A.P.I.*—Presented before the mid-year meeting, June 1 to 3, Colorado Springs, Colorado**

Effects of Sweetening on Octane Number

When the mercaptan solutions shown in Table 1 are treated with copper-sweetening solution as described in previous articles by the authors, the octane numbers of the sweetened products are virtually the same as those of either the mercaptan solutions or the synthetic disulfide solutions. This in conjunction with other evidence, proves conclusively that the mercaptans are converted directly and completely to disulfides in this method of sweetening. Doctor treatment, however, using plumbite solution and free sulfur according to the conventional equations:

$$Na_2PbO_2 + 2RSH \rightarrow Pb(RS)_2 + 2NaOH$$
$$Pb(RS)_2 + S \rightarrow RSSR + PbS$$

gives octane numbers considerably lower—from which it is obvious that these reactions do not tell the whole story, and that part of the sulfur must be converted to other compounds with strong pro-knock characteristics. This is shown in Table 2.

The results of the doctor treatment were obtained using fresh plumbite solution and about 90 per cent of the theoretical amount of free sulfur according to the equation cited. As will appear later, it should not be concluded that octane losses of the same magnitude would always result on solutions of similar mercaptan content, as the method of treatment apparently is the controlling factor. The losses shown are probably minimum, since the conditions used in the experimental tests were not as favorable to the formation of deleterious oxidation products as the conditions which are encountered in most commercial installations.

Investigators have expressed the reactions of doctor treating and its modifications in various ways over a period of many years, and there still is little agreement, except that it is usually assumed that the mercaptans are converted to disulfides without formation of more than mere traces of extraneous compounds. Effects of these compounds, however, are so pronounced that there is now little doubt that they exist in appreciable quantities, and this is becoming more widely recognized with improvement in analytical methods and better realization of the significance of effects which were formerly disregarded or attributed to other causes.

In a series of investigations made several years ago by Chaney and Schulze,[1a] it was found that the lower-boiling mercaptans are readily oxidized with solutions of alkaline polysulfides, such as sodium polysulfide and caustic, even in the absence of sodium plumbite or lead sulfide. In order to be an effective oxidizing agent the sodium-polysulfide solution must have the molecular formula of Na_2S_x, wherein x is at least 3. Although the reactions involved in the sweetening step are somewhat involved and cannot be readily expressed in simple equations, the primary step may be shown by the following concurrent reactions:

$$2RSH + Na_2S_x \rightarrow R\text{-}S\text{-}S\text{-}R + H_2S + Na_2S_{x-1}$$
$$2RSH + Na_2S_x \rightarrow R\text{-}S\text{-}S\text{-}S\text{-}S\text{-}R + H_2S + Na_2S_{x-2}$$
$$2RSH + Na_2S_x \rightarrow R\text{-}S\text{-}S\text{-}S\text{-}S\text{-}S\text{-}R + H_2S + Na_2S_{x-3}$$

These equations show how the disulfides, trisulfides, tetrasulfides, and even higher polysulfides may be formed simultaneously in the process. Since the treating solutions contain excess alkali, the hydrogen sulfide formed in the reaction is converted to monosulfide—and such monosulfide also lowers the average polysulfide concentration in the solution.

With a proper choice of sodium-polysulfide treating agent it was possible to convert a large proportion of the mercaptans in naphtha solutions to alkyl polysulfides higher than the disulfides,

TABLE 2—OCTANE NUMBERS OF COPPER-TREATED AND DOCTOR-TREATED MERCAPTAN SOLUTIONS

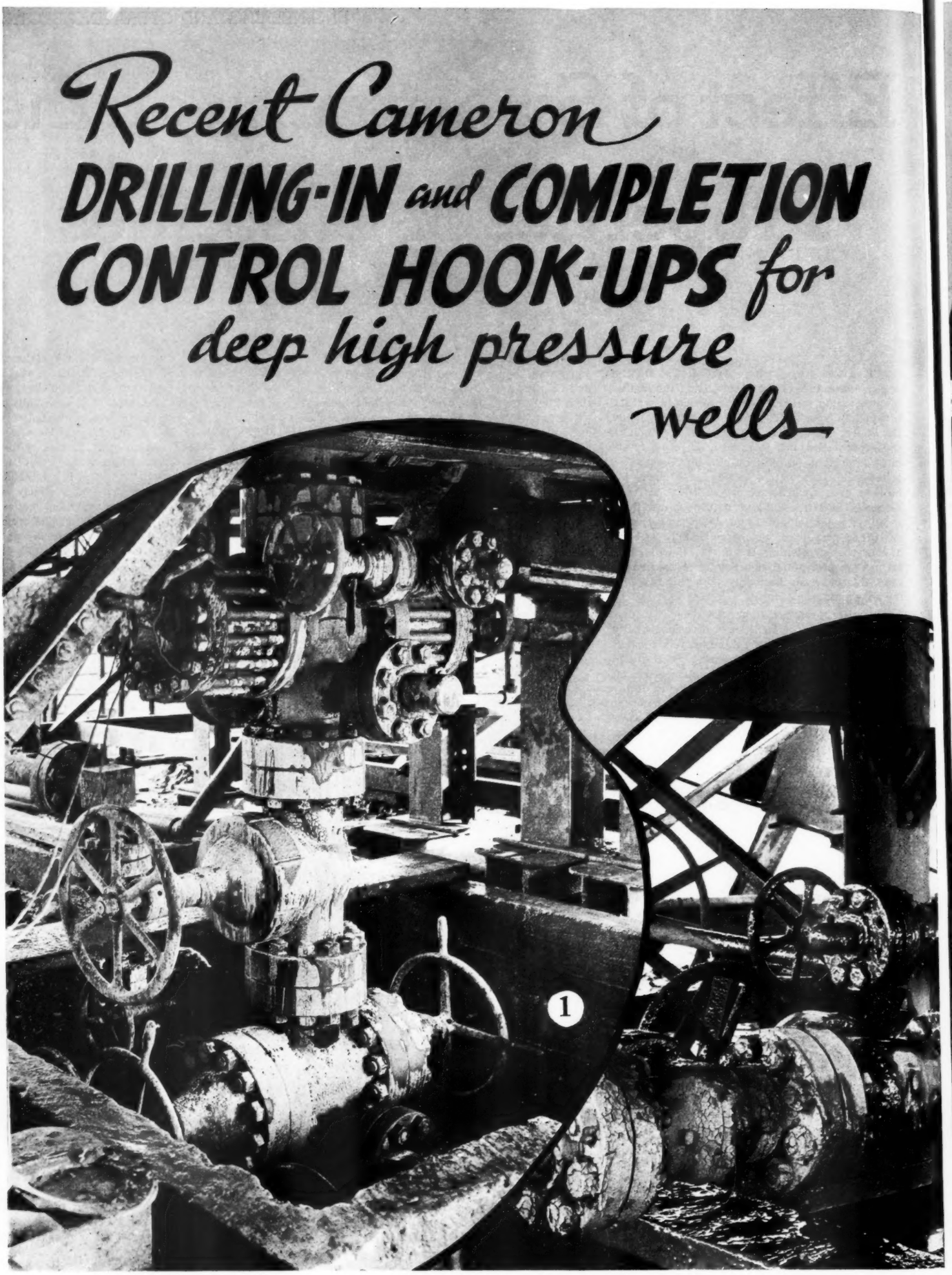
Solution—	Sulfur Content (Per Cent)	ASTM Octane No.	Octane No. with 1 cc. Tetraethyl Lead per Gallon
1. Methyl mercaptan	0 044	49 8	58 9
a. Doctor-treated	0 048	48 5	56.7
b. Copper-treated	0 044	49 8	58.9
2. Ethyl mercaptan	0 042	50 0	58.9
a. Doctor-treated	0 049	48 6	57.4
b. Copper-treated	0 041	50 1	58.8
3. *n*Butyl mercaptan	0 040	49 9	58 9
a. Doctor-treater	0 043	48 6	57 8
b. Copper-treated	0.039	49.6	58.7

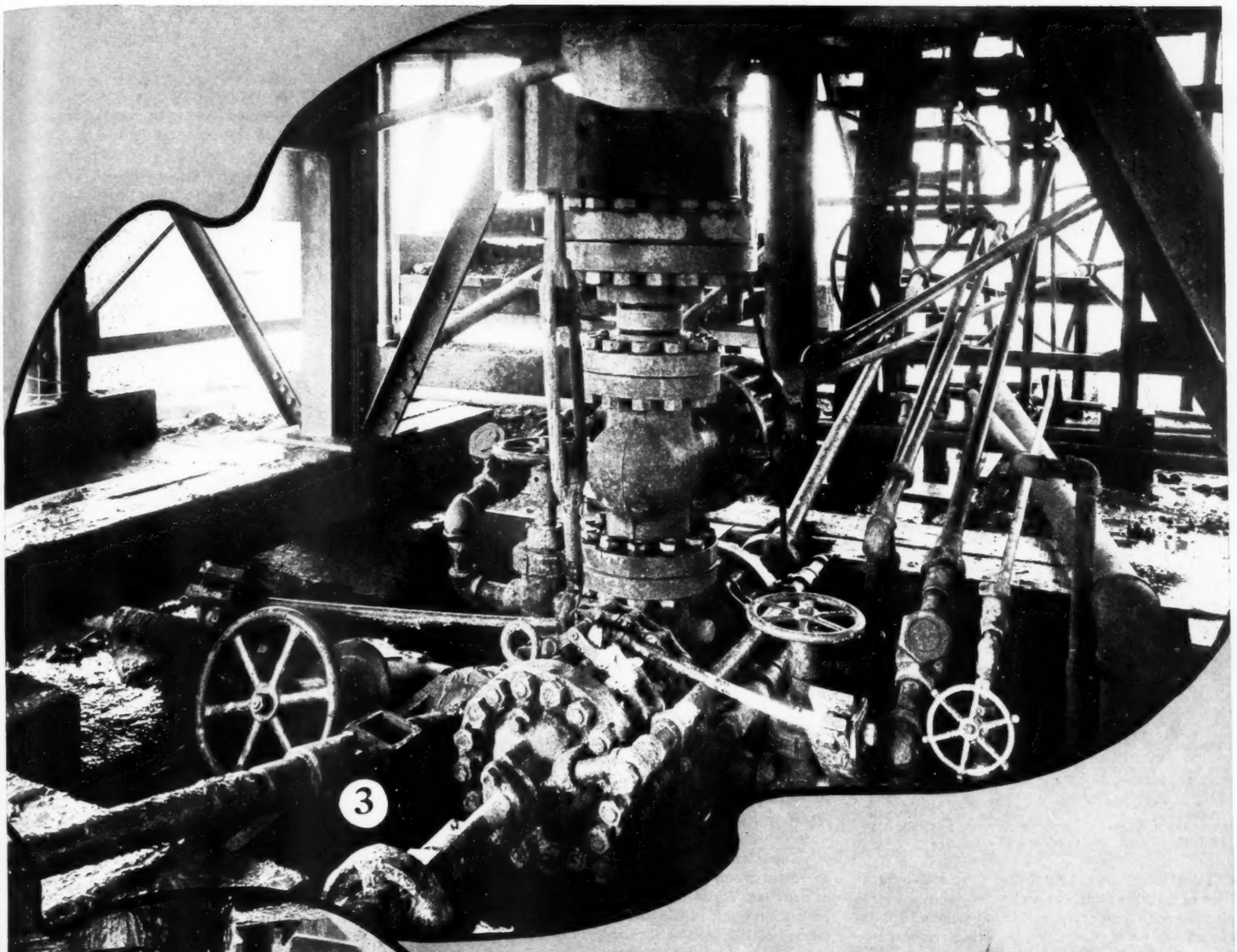
and it was found that the properties of solutions containing these higher polysulfides were similar

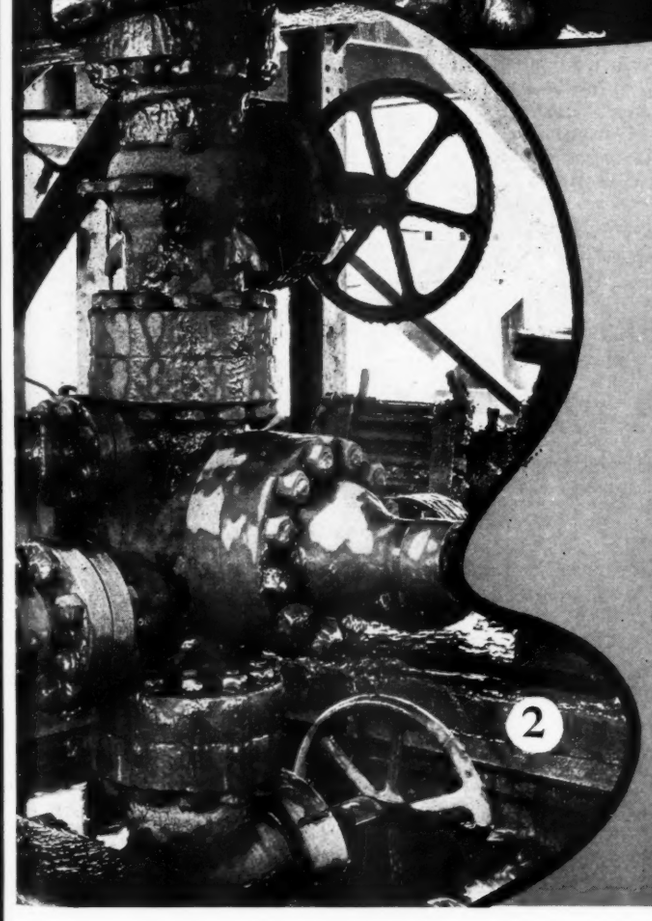
(Continued on Page 62)

[1a] Figures refer to bibliography.

Recent Cameron DRILLING-IN and COMPLETION CONTROL HOOK-UPS for deep high pressure wells







Drilling-in and completion of deep, potentially high pressure wells is today being approached, insofar as control equipment is concerned, with a more thorough and detailed consideration of the problems involved. The three 7" high pressure control hook-ups here illustrated are typical of those being employed by careful operators after high pressure formations have been cored and the oil string has been set and cemented.

Figure No. 1 shows a combination drilling-in and completion hook-up, consisting of a 7"—6,000 pounds test Cameron Type RH Manually Operated Blowout Preventer; a 6,000 pounds test 7" Conventional Gate Valve and a 5,000 pounds test Cameron Type SDA Pressure Operated Blowout Preventer. Rams in the lower preventer are designed to seal on 2⅜" O.D. tubing. Rams in the pressure operated preventer are designed to seal on 3½" O.D. drill pipe. While in the hole with drill pipe, well is protected by upper pressure operated preventer. When liner and screen have been set with drill pipe, tubing string is then run in and suspended and sealed on the rams of the lower preventer. Master Valve above is then closed, pressure operated preventer removed, and Xmas Tree flanged above. Master Valve is then opened and well washed in to completion.

Figure No. 2. This hook-up consists of Cameron 7" Type MH 6,000 pounds test Manually Operated Blowout Preventer, flanged between two 7"—6,000 pounds test conventional gate valves. Preventer is assembled with rams to seal on 3½" O.D. drill pipe. After liner and screen have been set with drill pipe, lower gate valve is closed and rams in preventer changed to seal on 2⅜" O.D. tubing. Tubing string is then run in, and is suspended and sealed on closed rams of preventer. Gate Valve above is then closed and Xmas Tree flanged above top gate valve. Well is then washed in to completion.

Figure No. 3. This hook-up consists of a 7"—6,000 pounds test Conventional Gate Valve (not visible in picture); a 5,000 pounds test Cameron Type SDA Pressure Operated Preventor; a 5,000 pounds test Cameron Pressure Operated Master Gate Valve and a Pressure Operated pack-off type of preventer. This hook-up installed on an 8,700 foot well near Houston and has repeatedly caught and held threatened blowouts, although 17½ pound mud was used to hold the estimated 8,000 pound bottom hole pressure.

The use of high test pressure 7" drilling-in and completion hook-ups is developing rapidly and Cameron Iron Works, Inc., as principal manufacturers of pressure operated control equipment, has accumulated much useful data concerning them. Our sales or engineering departments will gladly provide complete details on any type of hook-up in which you may be interested.

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to the properties of doctor-treated solutions, and from the magnitude of the effects to estimate the extent of undesirable side reactions occurring in the various modifications of doctor treating. Octane-number losses were found to be proportional to the amounts of the higher polysulfides present.

In this connection, it should be borne in mind that the authors as well as other investigators have found that low-boiling mercaptans are readily oxidized merely with caustic and elementary sulfur. The reactions are probably similar to those occurring with the polysulfide solutions.

The formation of trisulfides, tetrasulfides, and even higher sulfur compounds during treatment with doctor solutions containing appreciable quantities of sodium plumbite and subsequently breaking out with elementary sulfur is perhaps explainable on the basis of either competing reactions or of transient polysulfide. In the absence of water-soluble lead compounds, it is obvious that the sodium polysulfides may be readily formed from caustic and sulfur. Thus, in the presence of lead sulfide and either: 1, caustic and sulfur or, 2, low concentrations of sodium sulfide and air, the polysulfides—serving as the oxidizing medium—may readily be formed.

This seems a more logical explanation of the mysterious reactions involved in some types of doctor treating than those previously advanced. Additional evidence lies in the fact that lead sulfide will not sweeten gasoline in the presence of high concentrations of sodium sulfide, which acts to keep the sodium-polysulfide solution below the minimum Na_2S_3.

The deleterious effects of the higher alkyl polysulfides have been reported previously. For instance, Birch and Stansfield[2] isolated trisulfide from doctor-treated ethylmercaptan solution, and compared the effects of synthetic trisulfides with disulfides when added to sulfur-free gasolines. They also concluded that even higher polysulfides, although not isolated, must be present in doctor-treated gasolines, since the octane losses during doctor treatment were greater than those obtained with equivalent quantities of trisulfides.

TABLE 3—LABORATORY TREATING TESTS

	Sour	Laboratory, Doctor "A" Method	Laboratory, Doctor Method "B"	Laboratory and Plant, Copper
Octane No.	61.6	61.2	60.0	61.7
Octane No. plus 1 cc. tetraethyl lead	68.3	67.7	67.1	68.3

TABLE 4—COMPARISON OF COPPER SWEETENING AND DOCTOR TREATING

	Sour	Plant, Copper-treated	Plant, Doctor-treated
ASTM octane No.	47.7	47.7	44.2
ASTM octane No. plus 1 cc. tetraethyl lead	56.7	56.7	52.4
ASTM octane No. plus 3 cc. tetraethyl lead	65.5	65.5	61.5
RSH sulfur, per cent	0.035	....	....
Total sulfur, per cent	0.068	0.068	0.084
Corrosion test	....	negative	negative
Gravity, deg. API	60.2	60.3	59.8
Reid vapor pressure, lb.	5.45	5.45	5.10
ASTM Distillation, Deg. F.:			
Initial boiling point	108	105	104
10-per-cent point	162	161	162
50-per-cent point	250	251	249
90-per-cent point	369	368	371
End point	422	422	416

Table 3 shows results of laboratory treatment of a cracked gasoline, using the copper method and two variations of the doctor method. The sour gasoline is representative of a product on which daily tests have been made over a period of several months. Samples of the plant-sweetened gasoline showed an average loss of 0.8 octane number by the doctor method, and similar tests at a later period showed no loss by the copper method. The reduction in the tetraethyl-lead requirement of this gasoline as a result of conversion to the copper-sweetening method amounts to 0.25 cc. per gallon.

Doctor treatment by method "A" consisted of using a 50-per-cent excess of new plumbite solution, and 80 per cent of the theoretical quantity of elementary sulfur, with one hour of vigorous contacting. As this procedure has appeared to give minimum octane losses by doctor sweetening in any of its modifications, this treatment was selected for use in the other examples.

Plant Results

In commercial operation the copper-sweetening method has consistently shown no appreciable octane loss, regardless of the nature of the gasoline or the degree of sourness. Octane losses from doctor treating have been reported by various authors as ranging from 0.5 to 3 or more octane numbers, and this agrees with our experience. Several comparisons of the two methods are presented in the following tables; and, because it was not possible to avoid recourse to laboratory treatment for some of this work, attention should be directed to the technique necessary to obtain reliable results by the various methods. The sulfur chemistry of petroleum is indeed complex, and a rather comprehensive understanding is necessary if the experiments are to have any significance. In making the laboratory tests, the results of which are shown in this paper, every conceivable precaution was taken to avoid weathering losses and the like, so that the sweetened products were truly characteristic of the sour gasolines except for the oxidation of the mercaptans. It should be pointed out too that new solutions were used in all of the doctor treatments, and that the octane ratings thus obtained were the maximum obtainable. In commercial practice, where the doctor solutions are used repeatedly, the octane ratings and other properties of the gasoline will be still less favorable than those reported here. For example, the low-boiling methyl and ethyl mercaptans react with new doctor solution to give the corresponding lead mercaptides, which are almost totally insoluble in gasoline and which precipitate out as sludge. These lead mercaptides are mixed with lead sulfide, and are extremely reluctant to react with elementary sulfur to form disulfides. Even with long contacting this conversion is not complete; therefore, this first portion of gasoline from new doctor solution will contain somewhat less of the sulfur compounds than succeeding portions. The octane number of this gasoline is somewhat better, therefore, than can be obtained in practice with solutions which reach a state of more or less equilibrium with repeated use. Attention is called also to the complete extraction of methyl mercaptan from gasoline merely with caustic to form the water-soluble sodium mercaptide in the absence of soluble lead compounds. In such instances higher octane numbers are obtained than are possible in practice. These are merely some of the pitfalls which have led in the past to erroneous interpretations of the results obtained by laboratory tests with the various modifications of doctor treating. In sweetening with copper solutions, no insoluble compounds or sludges are formed, all of the mercaptans are converted to disulfides, no change occurs in the treating solution and, therefore, the results obtained in laboratory tests are always duplicable in commercial practice.

Comparison of Methods

Direct comparisons of the products from the two types of treating plants operating simultaneously on the same gasoline are seldom available for obvious reasons. It has been possible, of course, to establish the octane loss encountered in doctor sweetening in any commercial installation by direct comparison of the octane ratings of the sour and sweetened gasolines. Likewise, it has been possible to establish beyond peradventure of doubt that copper-sweetening plants subsequently installed entirely eliminated that loss. Recently, however, samples were secured from a plant operating both a large copper-sweetening unit and a large doctor-treater on the same gasoline. The results are shown in Table 4. The gasoline is a high-end-point, straightrun, Texas-Panhandle crude, used as a base in third-grade motor fuel.

There was some weathering loss in the doctor treatment, but this can account for only a relatively small part of the total octane loss. The large increase in the total sulfur content should be noted.

For further direct examples, it has been necessary to resort to laboratory treatment by one of the methods as compared to plant treatment by the other method. This gives valid results when the copper-treating method is used in the laboratory. In cases where it has been necessary to use laboratory doctor treatment, the results cited are known to be within the range of previous plant results before the copper-treating method was installed.

Since the gravity test is the most sensitive indication of weathering losses, examination of the data in Table 5 shows that weathering has played

TABLE 5—COMPARISON OF DIFFERENT METHODS OF TREATING STRAIGHT RUN AND CRACKED GASOLINES

STRAIGHT RUN GASOLINES

	Example 1			Example 2		
	Sour	Copper (Plant)	Doctor (Laboratory)	Sour	Copper (Plant)	Doctor (Laboratory)
ASTM octane No.	53.1	53.1	51.3	50.1	50.1	49.1
ASTM octane No. plus 1 cc. tetraethyl lead	62.7	62.7	61.4	61.6	61.5	60.5
RSH sulfur, per cent	0.011	....	....	0.011	....	....
Total sulfur, per cent	0.027	0.027	0.028	0.022	0.022	0.024
Corrosion test	....	negative	negative	....	negative	negative
Gravity, deg. API	58.5	58.4	58.5	63.0	63.0	63.1
Reid vapor pressure, lb.	6.10	6.10	6.10	9.70	9.65	9.75
ASTM Distillation, Deg. F.:						
Initial boiling point	105	103	101	90	87	89
10-per-cent point	175	176	174	142	136	138
50-per-cent point	262	266	264	250	250	252
90-per-cent point	354	352	350	355	357	360
End point	405	404	403	413	416	411

CRACKED GASOLINES

	Example 3			Example 4			Example 5		
	Sour	Copper (Laboratory)	Doctor (Plant)	Sour	Copper (Laboratory)	Doctor (Plant)	Sour	Copper (Plant)	Doctor (Laboratory)
ASTM octane No.	68.7	68.5	66.7	63.3	63.3	62.3	67.7	67.7	67.2
ASTM octane No. plus 1 cc. tetraethyl lead	72.6	72.5	71.2	69.7	69.7	68.7	73.6	73.6	72.7
RSH sulfur, per cent	0.054	....	....	0.013	....	....	0.027	....	....
Total sulfur, per cent	0.300	0.296	0.313	0.048	0.049	0.057	0.058	0.059	0.062
Corrosion test	....	negative	negative	....	negative	negative	....	negative	negative
Gravity, deg. API	59.3	59.1	59.2	54.3	54.3	54.3	61.1	61.1	61.1
Reid vapor pressure, lb	8.00	7.70	7.70	6.15	6.00	6.00	12.55	12.30	12.65
ASTM Distillation, Deg. F.:									
Initial boiling point	92	93	92	100	100	98	85	86	84
10-per-cent point	131	133	133	171	172	170	109	106	111
50-per-cent point	240	242	242	290	289	288	239	235	242
90-per-cent point	349	353	349	355	355	355	358	356	357
End point	398	404	398	408	410	405	409	402	407

little or no part in these tests. It should be mentioned that whereas example "5" showed a loss of only 0.5 octane number by the laboratory doctor treatment employed in these tests, the gasoline averaged about 1.5 octane loss in plant doctor treatment. This is in line with the previous statement that the octane losses by our laboratory doctor method are extremely conservative, and represent minimum losses by such methods of treatment.

Differences in sulfur content of the copper-treated gasolines are negligible, while the increases shown in the doctor-treated gasolines represent a real difference—small in the case of the laboratory-treated samples, and appreciable for the plant samples.

Color Gum, and Corrosion

The higher alkyl polysulfides, which may be thought of as persulfides, are analogous to peroxides in their effects on the various properties of gasoline. As already shown, these persulfides and peroxides both cause depreciation in octane number. This analogy may now be extended to other properties of the gasoline such as potential corrosion, color stability, and potential gum.

Gasolines containing low concentrations of these polysulfides may be subjected to moderate heating over a period of time without appreciable decomposition of the polysulfides; whereas exposure to sunlight, or even the light on cloudy days, is sufficient to cause decomposition with the formation of corrosive sulfur. A gasoline containing an appreciable amount of alkyl polysulfides but no elementary sulfur, if not exposed to sunlight, will give a negative copper-strip corrosion test; whereas after exposure to sunlight it will be very badly corrosive. Some years ago it was noted that certain gasolines which showed no corrosion even after a test period of as much as three hours at 210 deg. F. would be badly corrosive in several minutes after exposure in a 4-oz. sample bottle to as little as 15 min. of sunlight. This effect was due to the decomposition of the higher alkyl polysulfides which were formed by doctor treatment in the presence of air. No doubt this effect has been encountered often in practice, but unexplained. For example, a sample of gasoline containing polysulfide compounds may have become exposed to sunlight before the corrosion test was made and, hence, the sample may have given a positive test. As is frequently the case under such conditions, a second sample may have been obtained and found to be non-corrosive simply because it was not exposed to light for so long a time as the first sample.

Potential Corrosiveness

In connection with the potential corrosiveness of alkyl polysulfides, it should be pointed out that the amount of elementary sulfur necessary to give a positive copper-strip corrosion test varies widely with the characteristics of the gasoline. Light gasolines containing only saturated hydrocarbons will, in general, give positive corrosion tests with extremely low quantities of elementary sulfur; whereas cracked gasolines may contain a number of times more elementary sulfur before a positive test is obtained. Hence, the amount of alkyl polysulfides present in gasoline and the amount of such compounds decomposed cannot always be determined merely by exposure to sunlight and subsequent corrosion tests. It is possible to have present sufficient quantities of these deleterious compounds to cause substantial depreciation in other properties of the gasoline: for example, octane number, without noticing the adverse light effect.

It has been noted too that straightrun gasolines containing appreciable quantities of alkyl polysulfides formed during the doctor-treating process are generally somewhat color-unstable on exposure to sunlight for a period of four hours or so. Usually these gasolines become hazy, and sometimes so cloudy that they appear milky. Similar reactions occur in cracked gasoline; but, due to the greater solubility of the reaction products in unsaturated hydrocarbons, there is very little or no precipitation.

Still another very undesirable property of alkyl polysulfides is the effect on the gum stability of gasolines. As stated previously, these compounds may be likened to peroxides. They tend to destroy natural inhibitors, and render very much less effective synthetic inhibitors which may be added. In other words, it has been found that much smaller quantities of inhibitors are effective in gasolines sweetened in such manner that alkyl polysulfides are absent.

At this point it seems desirable to call attention again to the fact that these extremely deleterious compounds called alkyl polysulfides are not formed at all during sweetening with the copper processes. In these new methods of sweetening the mercaptans are converted completely to disulfides. The oxidizing medium is slightly acid, whereas doctor treating in all of its various modifications employs an alkaline medium conducive and necessary to the formation of the higher polysulfides. Thus, it has been confirmed in the rapidly-increasing number of commercial installations that copper-sweetened gasolines are much better in quality than those sweetened by doctor processes. Due to the absence of the alkyl polysulfides in copper-sweetened gasolines, such gasolines have: 1, higher octane ratings; 2, improved sunlight stability; 3, no potential corrosiveness; and, 4, greater gum stability with smaller amounts of inhibitors, either natural or synthetic. This is not because the copper treatment improves any of the qualities of the untreated gasoline other than odor, but merely that it eliminates the degrading effects resulting from other sweetening methods. The tangible benefits that are realized depend entirely on local conditions at individual plants.

Bibliography

[1]U. S. Patent 2,034,837.
[2]Birch and Stansfield, *Ind. Eng. Chem.*, 28, 668 (1936).

Electric Dehydrating and Desalting of Crude Oil

By J. J. ALLINSON
Lion Oil Refining Co., El Dorado, Ark.

Salt in crude oil may affect refinery processing in several ways: 1, mechanical stoppage of equipment; 2, corrosion; 3, impurity of product.

Electrical desalting is accomplished in two steps. An emulsion is made of the salt-bearing crude and fresh water; then the mixture is electrically demulsified and separated. About 90 per cent of the salt is transferred from the crude oil to the wash water. Efficiency of salt removal depends upon the nature of the crude, degree of emulsification, and effectiveness of separation of oil and wash water.

Emulsification is accomplished by one or more of the following methods: turbulent flow of oil and water; orifice-plate mixers; centrifugal pumps and back-pressure valves. The oil and water are separated by electrical dehydrators, such as are used for natural crude-oil emulsions.

***A.P.I.*—Presented before the mid-year meeting, June 1 to 3, Colorado Springs, Colorado**

The dehydrator consists of a 180-bbl., 25-lb. working pressure, 10-ft. by 12-ft. tank; 220-volt control equipment; 220- to 16,500-volt transformers mounted on top of the tank, and electrodes within the tank.

The drops of water suspended in the oil phase are subjected to a strong electric field. By electrostatic induction, the drops assume positive and negative poles. There is mutual attraction between unlike poles on adjacent drops, the force being sufficient to cause coalescence, resulting in drops large enough to fall through the oil to the bottom of the tank, from which the water is drained.

The electric field between electrodes has an average value of 10,000 volts per inch.

Average throughput per day per unit is 1,500 bbl.; operating temperatures, 130 to 200 deg. F.; electric power load, 2 kw.; amount of wash water, 5 to 20 per cent of the oil.

The process is continuous, and is a part of the still equipment on the crude-charge line. Operation is under supervision of the stillman, and requires no additional labor. Adjustments are pressure, temperature, and water level. Should the equipment become inoperative, a pilot light gives warning in ample time for correction.

The Lion refinery is desalting a very corrosive crude from the Urbana (Arkansas) Field by the electrical process. The salt content is being reduced from approximately 100 grams per barrel to about 4 grams per barrel, and dehydration occurs down to 0.7 per cent or less. Before desalting, the average length of a run on the crude unit was from three to six days until a shut-down resulted from plugging of furnace tubes, exchangers, and towers with solid salt. Corrosion of condenser and run-down equipment was severe. By using wash tanks, hot settling drums, and other schemes for reducing the salt content, runs were lengthened to 10 or 12 days. Since installing the electric desalters, 60- and 70-day runs are normal. During a typical operation, when the salt content of the crude was being reduced from 107 to 5.6 grams per barrel, laboratory distillation showed that the release of hydrochloric acid at 650 deg. F. was reduced from 63.85 lb. to 0.54 lb. per 1,000 bbl. of crude. The result is decreased corrosion of the equipment.

Where salt is a serious problem, we consider it an act of wisdom to eliminate it from the crude before distillation.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Deepest Well, Largest Well and Field Most Densely Drilled

Could you give me information on the following questions?:

1. Where is the deepest producing well in the world, and what is its depth?

2. What oil field in the United States has the largest number of producing wells per acre.

3. What is the largest single producing well in the world, and how much does it produce?—P. T.

At this time the deepest oil well is Humble Oil & Refining Co. No. 1 Ellender in the West Hackberry field, Louisiana. This hole was drilled to a total depth of 12,165 feet but plugged back to 11,620 feet from where it is now producing.

Your second question is not so easy to answer if some of the old eastern fields are considered. In some areas wells were drilled on tracts of land just large enough to accommodate the derrick. But as the record of the acreage in the field and the number of wells is not available only modern fields will be considered.

The records show that in the Spindletop field, Texas, there is a total of 430 acres of shallow and deep production with 1,343 wells drilled. This gives a density of one well to .32 acre. For the shallow wells the area is 280 acres and there are 1,002 wells or the density is .279 acre per well.

In California there are some densely drilled fields. Long Beach has 2,066 wells drilled in 1,280 acres or the density is .62 acre per well.

Santa Fe Springs with 1,240 acres has 1,049 wells or one well to each 1.18 acres.

Huntington Beach field has an area of 2,210 acres and 1,113 wells or the density is 1.96 acres per well.

The world's largest well would depend upon interpretation of records. There were some very large wells in the Dos Bocas field, Mexico, but the largest, No. 3 San Diego, caught fire soon after completion and burned for two months so the rate of flow is only an estimate. There were some very large wells completed in Baku field, U.S.S.R., but again the records are not clear as to the rate of flow.

The largest well of record in this country is the Ohio Oil Co. No. 30-G on Yates A lease in the Yates field, Pecos County, Texas. This well made a measured flow of 7,705 bbls. per hour or at the rate of 184,920 bbls. per day. The well never could produce for a long period at full rate because it was not possible to handle the large volume of oil but it is without doubt the largest well for it was repeatedly tested over several years and always responded with the output of an enormous volume of oil.

Why Exhaust Pipes Are Beveled at Top

It has been noted most vertical exhaust pipes at internal combustion engine plants are cut on a bias or diagonally. Why is this done?—W. T. A.

There is probably no historical record of when pipes were first cut diagonally across the discharge end but this practice has been followed for time immemorial in shaping the ends of reeds and wind instruments. This type of end will change pitch of the reed or pipe and it is probable the same practice was adapted for the vertical exhaust pipes on internal combustion engines to deaden the sound. With the beveled ends the pitch of the exhaust gas escaping to the atmosphere is lowered and in this manner the sound of the explosion is muffled.

Preventing Formation of Hydrates in Natural Gas Line

We have a gas well supplying a small town. The gas is transported through a 3-inch line and trouble has been experienced because the main freezes in cold weather. Can you suggest some means of remedying this trouble? —R. J. B.

The problem you present is one that has given the natural gas companies considerable concern and is not simple of solution, but it is possible to eliminate the formation of hydrates and in this manner eliminate the freezing of the line.

For a rather complete discussion of this problem you are referred to an article by E. M. Parkin published in the January 11, 1937, issue of The Oil and Gas Journal, page 54. This article describes a very complete plant in Montana but the general principles can be applied to a system using smaller units.

This problem may be briefly stated. Most natural gas contains water vapor. This vapor is inactive except when conditions cause it to be condensed in the transmission system. It may then form either liquid water or hydrates which resemble ice. True ice is not as easily formed as hydrates which have a crystalline structure and accumulate in sufficient quantity at times to plug the line.

Dehydration is the proper means to correct and combat this condition. The object is to remove from the gas all water vapor so the gas may be classified as a "dry" gas, i.e., a gas containing so little water vapor that no liquid water is formed in the system. The volume of water vapor allowable will depend upon the line temperature and pressure, because neither water vapor nor natural gas follow the laws of true gas exactly.

The methods of dehydrating natural gas are based upon some form of process during which the liquids are absorbed. Calcium chloride brine, usually refrigerated, has been most commonly used but diethylene glycol is now finding a more general use for this purpose. The diethylene glycol has some advantages over calcium chloride brine but for a small plant it would require the advice of a competent engineer to decide which adsorbent should be used.

Another way to correct this trouble and prevent the formation of hydrates is to add about 42 parts per million of ammonia gas. This will reduce freeze-ups in natural gas lines where a dehydration plant is not practical.

It is suggested before you make extensive changes in your system you consult a natural gas engineer because this trouble can be reduced or eliminated entirely by the proper use of some kind of a dehydrator.

Carbon Black Literature

I am interested in the carbon black industry both from the standpoint of statistics and technical processes used. I am having some difficulty in finding reference material on this subject. Can you assist me?—S. M., Jr.

In reply to your letter of the first asking about carbon black statistics and technical processes it is suggested you write to the U. S. Government Printing Office, Washington, D. C., for copies of the following U. S. Bureau of Mines publications:

Bulletin 192.

Technical Papers 351 and 375.

Report of Investigations, 2,417.

In the bulletin you will find quite a complete description of the processes developed up to 1922 described and illustrated. The technical papers and reports deal with more recent developments and all should prove of interest and value to you.

Statistics on carbon black are prepared each year by Bureau of Mines and published both in pamphlet form and included in the bound volumn of the "Mineral Yearbook." It is believed the U. S. Printing Office will supply you with the pamphlet on carbon black if you request same.

Rodessa Field Acreage and Reserve

At various times I have read articles about the Rodessa oil field located in Louisiana and Texas. I would like to have estimate as to the number of proven acres in this field.—W. C. B.

In the Rodessa special issue of The Oil and Gas Journal of October 15, 1936, in the Field Service Report on page 115 it is stated the proven acreage in the Rodessa field on both Louisiana and Texas sides of the state line is approximately 25,000 proven acres. Of this acreage 8,000 acres is what is known as the gas-distillate area, the portion between the fault and the point of gas-oil contact.

The estimated reserves for both flowing and pumping life range from 7,500 to 20,000 bbls. per acre, depending upon thickness of sands, saturation, structural position and proximity of low-pressure areas.

For special information about this field you are referred to The Oil and Gas Journal issue of October 15, 1936, although several special articles covering conditions in Rodessa field have been published since then.

Identity of Old Pipe Line Company

We have a legal document in which the name "Yarhola Pipe Line Co." appears but we are not able to locate any such company. Can you inform us if such a company does exist?—F. S. W.

The Shell Pipe Line Corp. was organized in Oklahoma on June 27, 1914, as the Yarhola Pipe Line Co., and reorganized as Ozark Pipe Line Corp., incorporated in Maryland, October 7, 1919, and the present name was adopted October 26, 1927. As originally organized the Yarhola Pipe Line Co. served wells in the Cushing field where there are a number of Indian leases of that name.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Market Price of East Texas Crude Oil and That of Other Oils

Why not get the price of East Texas crude oil in line according to grade? It is high gravity and should command a much higher price, just the same as a higher grade of clothing or any other commodity.—N. E. V.

In a general way the high gravity oils command the higher prices, but there are several other factors that are important. A very important item is the location of the pool with reference to the consuming market and the volume of oil available. Then there is the matter of quality, which should include gravity, the percentage of gasoline and other products obtainable, and the nature and quantity of sulfur present. All of these need not be discussed with reference to the crude oil produced in the East Texas area. It is admitted to be a high quality oil.

The most important factors which have to do with the market price of this oil are—volume and location. The high quality is reflected in the price as compared with prices quoted for oils of similar gravity produced in North and Central Texas, the East Texas oil being quoted at 7 to 11 cents higher per barrel.

The volume of oil produced in East Texas has been large enough to influence the market. It is natural that the producer should want to sell his oil as soon after it reaches the surface as possible. There was so much oil in sight in East Texas that there were not sufficient facilities for moving it to the refining centers, with the consequent smash of the market. Just what happened is well known to everyone in the industry. Today production of East Texas wells is limited by law to 453,000 bbls. a day, which is equivalent to 2.32 per cent of the hourly potential from approximately 22,400 wells. With so much oil available it is fortunate for everyone involved that the price has been stabilized as it has been for some months.

The next important factor is that of transportation to the refineries and then the distribution of the products. The East Texas crude oil must be transported for great distances to refineries, by tankcars, pipe lines and boats. That the facilities are not adequate is evidenced by the fact that there are 22,174,000 bbls. of this oil in storage. The distribution of the products from the refinery is another item that is related to the cost of the crude oil at the well. If the East Texas field was adjacent to New York City or Pittsburgh the market price of the oil at the wells would without doubt be more than it is in Texas.

A question similar to this was discussed in The Oil and Gas Journal December 10, 1936, page 52.

Meaning of Stabilized Natural Gasoline Refers to Process

What is the technical meaning of stabilized natural gasoline and how is it obtained? What percentages are required with naphtha to make a product equal in performance to 68-70 octane gasoline?—T. A. W.

Natural gas produced with oil or from an oil sand usually contains hydrocarbons that may be extracted and reduced to the liquid form. Pressure and low temperatures are required. The early plants were operated to extract the maximum volume of the liquid, later called natural gasoline, resulting in producing a very volatile product; because it contained appreciable quantities of those hydrocarbons that boil at extremely low temperatures and could not be held in solution under normal atmospheric conditions. Natural gasoline of this sort was not suitable for motor fuel so it became the practice to store the liquid in tanks until enough of the very volatile or wild part had evaporated to reduce the vapor pressure to a satisfactory level. This operation was known as weathering but atmospheric conditions with seasonal changes, made it impossible to obtain a uniform product. The object of this process is now designated stabilization, related only to volatility, with no reference at all to the octane rating.

The process as now practiced utilizes the fractionating tower of the refinery. Temperatures and pressures are controlled at all times. The towers are of the bubble-plate type, the vapors leaving at the top are compressed and absorbed in a suitable oil, then released and condensed, a part of the resulting gasoline being expanded back into the top of the tower to produce the required low temperature.

A reboiler at the bottom of the tower serves as a still to accomplish the necessary fractionating.

Stabilization means more than a selection of a group of hydrocarbons suitable for gasoline. The separation of the hydrocarbons is much sharper, distinct, than the former weathering process could effect. Now it is possible by the use of these towers to separate the fixed gases, methane and ethane, the intermediates propane and butane to finally obtain the gasoline fraction made up of pentanes and heavier, as stabilized natural gasoline, especially valued for increasing the volatility of many refinery gasolines. These additional products formerly wasted are now liquefied, shipped in special containers to be used as special solvents in various industries.

CHEMICALS FOR THE PETROLEUM INDUSTRY

Sodium Carbonate
(Monohydrate Crystals)

Use—Similar to soda ash; cleaning, boiler water treating, photography.

Form—Granular, white sodium carbonate crystals.

Formula—$Na_2CO_3.H_2O$

Molecular weight—124

Soluble in water, per cent—cold, 8.4; hot, 57.5.

LIMITATIONS

	Per cent
Total alkalinity as Na_2O, min.	48.5
Anhydrous sodium carbonate	83.0
Sodium hydroxide, max.	none
Bicarbonate, max.	none
Insoluble in water, max.	0.1

Reference: Federal Standard Stock Catalog, O-S-581.

Control Factors for Blending of Natural and Other Gasolines

What are the essential properties to be considered when blending natural gasoline with refinery naphthas and gasolines? What is the average octane number of gasoline? Can natural gasoline and naphtha be blended satisfactorily by circulating in a tank?—D. J. L.

The control for the blending of natural gasoline is vapor pressure and per cent evaporated at 212° F. These are involved in volatility, the property of refinery gasoline which it is desired to improve. The most satisfactory blending stock is a low grade gasoline having properties similar to U. S. Government Motor Gasoline; say under 6 pounds vapor pressure, 20 to 25 per cent evaporated at 212° F., 90 per cent at about 392° F. and octane number above 50.

The table following may be used for making blends of natural gasoline with the refinery product.

MINIMUM PER CENT OF NATURAL GASOLINE REQUIRED FOR BLENDING TO PER CENT EVAPORATED AT 212° F. OF FINISHED PRODUCT

Finished blend evap. at 212° F.	Evaporated at 212° F. refinery stock— 5	15	20	35	45
40	41 2	33 6	29 0	9 5	0
45	46 6	39 8	35 6	17 9	0
50	52 1	46 3	42 7	27 0	12 0
55	57 9	52 6	49 5	36 1	22 5
60	63 0	58 9	56 3	45 1	33 0

Example. A refinery stock has 20 per cent evaporated at 212° which it is desired to raise to 50 per cent. Reading across on the 50 line and down the 20 column 42.7 per cent of natural gasoline is indicated.

The permissible vapor pressure may be obtained by means of the next table.

MAXIMUM PERMISSIBLE DIFFERENCES BETWEEN REID VAPOR PRESSURE OF NATURAL GASOLINE AND THAT OF FINISHED PRODUCT

Natural gasoline per cent	Difference between R.V.P. natural gasoline and R.V.P. finished blend 2	4	6	8	10
10	13 0	(*)	(*)	(*)	(*)
20	6 2	11 4	(*)	(*)	(*)
30	3 5	6 7	9 7	12 7	15 5
40	1 9	4 4	6 3	8 0	10 0
60	(†)	1 8	2 8	3 7	4 4

*Greater than 16. †Less than 1.0.

Example. Refinery stock with R.V.P. 6 pounds, the finished blend is 10 pounds and the percentage of natural gasoline to be used is 40. The increase V.P. of the finished product over refinery stock is 10-6 or 4 pounds. Reading on 40 line to the 4-pound column, 4.4 indicates that the natural gasoline may have a maximum R.V.P. of 4.4 pounds more than that of the finished product or 14.4 pounds.

The octane number of natural gasolines may range from about 65 to nearly 80, depending on the source and grade of the gasoline.

It is the common practice in the industry to blend gasolines in tanks by the recirculation system, the draw-off being above the middle of the volume and delivered into the tank at the bottom through a perforated spider. The contents of the tank being turned over several times.

References: Natural Gasser, Tulsa, October, 1934. Brown and Marshall, The Oil and Gas Journal, May 17, 1934, page 26. H. M. Trimble, The Oil and Gas Journal, January 19, 1933, page 16; May 18, 1933, page 58.

Refinery Operations in Mid-Continent Increase to Record High in June

By D. H. STORMONT

Refinery operations in the Mid-Continent will establish a new peak for that area during June and will exceed the former all-time peak set in August, 1931, by approximately 4,000 bbls. During the month refiners will charge about 594,325 bbls. daily to their stills, or some 21,500 bbls. more daily than in the preceding month. These data, reflecting the optimism with which refiners in that area are facing the season of heavy motor fuel consumption, are based upon daily crude runs individual refiners estimate they will process during the month.

The increase in runs is general throughout the eight districts comprising the Mid-Continent, each district showing an increase ranging from 650 to 4,950 bbls. daily. Kansas, Oklahoma and the Panhandle show the largest increases while Southwest Texas shows the least change from the May schedule. The other districts, with the exception of Arkansas, show advances only slightly under the 3,000-bbl. mark.

East Texas

In East Texas daily runs are being increased 2,745 bbls. over the May total as the list of operating refineries remains practically the same. General American's three plants will remain shut down during the month and also the Waco plant of Master Petroleum Co. Paluxy Asphalt Co. is now operating its Talco refinery at near-capacity level, charging 4,000 bbls. daily. The Talco pool will be offered another crude outlet during the month when the Mount Pleasant plant of the Talco Asphalt & Refining Co. is placed in regular operation. Test runs are to be made within the next few days and the plant is expected to be placed in full-scale operation before the end of the month.

The number of refineries operating in the East Texas field has declined to a point where there are only some 12 refineries with a capacity of about 90,000 bbls., operating regularly and a few others operating intermittently. In June, 1934, the total capacity of plants in that field was approximately 180,000 bbls., of which less than one-third was in operation. Thus, while the total refining capacity has greatly declined the active capacity has declined in much smaller proportion.

Mid-Continent Crude Runs

Average Daily (Barrels)

(Advance estimate compiled by The Oil and Gas Journal)

	1935	1936	1937
January	426,070	501,600	531,535
February	448,810	519,960	541,790
March	451,510	478,760	533,875
April	467,765	506,775	558,385
May	466,015	513,510	*572,855
June	485,015	527,225	594,325
July	494,210	539,370	.....
August	508,960	557,650	.....
September	541,080	553,215	.....
October	533,620	536,330	.....
November	524,475	548,015	.....
December	511,025	535,500	.....

*Corrected.

Operations by Refinery Districts

Daily crude runs

	June	May	Incr.
Arkansas	25,500	24,100	1,400
East Texas	56,350	53,605	2,745
Kansas	143,150	138,200	4,950
N. Central Texas	47,695	44,890	2,805
North Louisiana	44,250	41,450	2,800
Oklahoma	174,310	171,180	3,130
Southwest Texas	22,100	21,450	650
W. Tex. Panhandle	80,970	77,980	2,990
Total	594,325	572,855	21,470

Kansas

Kansas shows the most pronounced increase of the various sections of the Mid-Continent. runs to refineries in that area being increased by almost 5,000 bbls. daily. Practically all Kansas refineries are being operated on the same scale as in May, the increase being largely accounted for by substantial raises at a few plants. Among these are Globe Oil & Refining Co., with an increase of 2,000 bbls. at its McPherson plant, and Shell Petroleum Corp. and Socony-Vacuum Oil Co., Inc. with increases of 1,000 bbls. each.

The second largest increase in runs was registered among Oklahoma refiners who will process 174,310 bbls. during June or 3,130 bbls. more daily than in May. As in Kansas, the majority of the plants will be operated at levels approximating those of the previous month with the larger refineries slightly increasing their daily runs.

New Construction

Several companies are now increasing their plant capacities or are modernizing their refining facilities. Gainesville Refining Corp. is increasing its plant capacity from 1,500 bbls. to 3,000 bbls. with construction work in the final stage. Wickett Refining Co. has raised the capacity of its Wickett, Tex., plant from 1,800 bbls. to 3,000 bbls. by the addition of a pipe still formerly in operation at the nearby plant of the Bluebonnett Oil Refining Co. The latter plant has been dismantled.

Refugio Refining Co. is to start construction of a 1,000-bbl. skimming plant in the newly opened La Blanca field, Hidalgo County, Texas. United Refining Co. of Russell, Kans., has under construction a 2,000-bbl. plant which will operate on western Kansas crudes. The company, headed by F. E. Rienhardt, will operate a combination topping and cracking unit under the Donnelly license. Panhandle Refining Co. is to enlarge the capacity of its Lueders, Tex., skimming plant from 700 to 1,000 bbls. and is considering the installation of a cracking unit.

Plants of the Crown Oil Co. and Tyrene Refining Co. will be closed during June as will two other plants in the north central district, Allstate Refining Co. and Pilot Point Refining Co. This district, which has shown comparatively little change in the past few months, during June will process 2,800 bbls. more than in May.

Estimated Daily Average Mid-Continent Refinery Crude Runs for June

ARKANSAS

Company and location—	Daily capacity	Av. dly. runs— June	May
Berry Asphalt Co., Waterloo	2,000	1,200	1,300
Henry H. Cross, Smackover	6,000	5,000	4,500
Lion Oil Ref. Co., El Dorado	12,300	10,500	10,000
Macmillan Pet., Norphlet	2,500	2,000	2,000
Root Pet. Co., El Dorado	12,000	6,500	6,000
Stephens Ref. Co., Stephens	700	300	300
Total	35,500	25,500	24,100

KANSAS

Barnsdall Ref. Co., Wichita	6,000	5,000	5,000
Chase Ref. Co., Chase	800	550	500
Cusco Oil & Ref. Co., Chase	3,100	(*)	(*)
Derby Oil Co., Wichita	8,000	6,000	6,000
Dickey Ref. Co., McPherson	3,500	2,000	1,800
El Dorado Ref. Co., Eldorado	5,000	4,000	3,500
Falcon Ref. Co., Inc., Great Bend	1,000	650	850
Fredonia Oil & Ref. Co., Fredonia	250	100	100
Globe Oil & Ref. Co., McPherson	12,000	12,000	10,000
Kanotex Ref. Co., Arkansas City	12,000	6,500	7,300
Kreuger Ref. Co., Natoma	150	50	50
National Ref. Co., Coffeyville	8,000	5,800	6,000
Pet. Products Co., Chanute	800	800	800
Phillips Pet. Co., Kansas City	23,000	15,000	14,200
Shallow Water Ref. Co., Scott City	1,500	1,500	1,500
Shell Petroleum Corp., Arkansas City	20,000	19,000	18,000
Sinclair Ref. Co., Coffeyville	20,000	9,000	8,500
Sinclair Ref. Co., Argentine	11,000	7,500	7,500
Skelly Oil Co., Eldorado	23,000	17,000	17,000
Socony-Vacuum Oil Co., Inc., Augusta	20,000	18,000	17,000
Standard Oil Co., (Indiana), Neodesha	20,000	10,200	10,000
Vickers Pet. Co., Potwin	3,500	2,500	2,600
Total	203,650	143,150	138,200

*Shut down.

OKLAHOMA

Anderson-Prichard Ref. Corp., Cyril	6,000	4,500	4,500
Barnsdall Ref. Co., Barnsdall	6,000	3,500	3,500
Barnsdall Ref. Co., Okmulgee	10,000	4,000	4,000
Bell Oil & Gas Co., Grandfield	5,000	3,000	3,500
Black Gold Ref. Co., Oklahoma City	3,000	1,800	1,800
Champlin Ref. Co., Enid	16,000	9,000	8,500
Continental Oil Co., Ponca City	30,000	25,000	24,500
Cushing Ref. & Gasoline Co., Blackwell	1,700	1,700	1,700
Cushing Ref. & Gasoline Co., Cushing	6,200	2,500	2,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	5,000	2,500	2,500
Empire Oil & Ref. Co., Okmulgee	4,000	2,700	2,420
Empire Oil & Ref. Co., Ponca City	12,000	9,000	9,000
Globe Oil & Ref. Co., Blackwell	8,000	6,000	4,800
Johnson Oil Ref. Co., Cleveland	6,000	4,000	3,600
Knox Ref. Co., Covington	250	100	100
Mid-Continent Pet. Corp., West Tulsa	40,000	26,000	26,100
Ohio Oil Co., Bristow	5,000	2,835	3,000
Omar Ref. Co., Garber	4,000	3,000	2,700
Peppers Gasoline Co., Oklahoma City	500	450	400
Phillips Pet. Co., Okmulgee	6,500	5,660	400
Pure Oil Co., Muskogee	10,000	8,165	8,160
Pyramid Prod. & Ref. Corp., Oklahoma City	600	400	400
Rock Island Ref. Co., Beckett	6,500	3,200	3,000
Sinclair Ref. Co., Sand Springs	8,000	4,500	4,500
Sooner State Ref. Co., Oklahoma City	700	350	350

Company and location—	Daily capacity	Av. dly. runs— June	May
Sun Oil Co., Yale	5,000	2,000	2,000
Sunray Oil Co., Allen	8,000	2,800	2,800
Texas Co., West Tulsa	16,000	11,200	11,200
Tide Water Oil Co., Drumright	12,000	12,000	12,000
Triangle Prod. & Ref. Co., Oklahoma City	1,200	950	950
Wilcox Oil & Gas Co., Bristow	6,000	2,500	2,400
Total	259,150	174,310	171,180

NORTH LOUISIANA

Acme Ref. Co., Monroe	100	50	50
Arkansas Fuel Oil Co., Bossier City	25,000	20,000	19,000
Atlas Pipe Line Co., Shreveport	12,500	8,000	8,000
Bayou State Oil Corp., Hosston	750	600	500
Griswold Refs., Inc., Shreveport	1,000	(*)	(*)
Griswold Refs., Inc., Sandra	2,500	(*)	(*)
North Caddo Ref., Rodessa	1,000	600	400
Pelican Ref. Co., Converse	100	(*)	(*)
Rodessa Oil & Ref. Co., Cedar Grove	7,500	7,000	6,500
Shoreline Oil Co., Lewis	5,000	3,500	3,000
Stanolind Oil & Gas Co., Superior	5,000	4,000	4,000
Total	60,450	44,250	41,450

*Shut down.

SOUTHWEST TEXAS

Amsco Ref. Co., Mirando City	4,500	4,000	3,500
Humble Oil & Ref. Co., San Antonio	5,000	3,400	3,400
Imperial Gasoline Corp., Houston	4,000	750	700
Ina Oil & Ref. Co., Hondo	400	50	50
Fordyce Ref. Co., Sullivan City	1,000	300	300
Magnolia Pet. Co., Luling	8,000	5,800	5,700
Pettus Oil & Ref. Co., Pettus	1,000	800	800
Pettus Oil & Ref. Co., Mathis	1,000	800	(*)
Phoenix Ref. Co., San Antonio	1,200	1,000	1,000
Phoenix Ref. Co., Bruni	900	600	600
Pioneer Oil & Ref. Co., Somerset	2,000	900	900
Rado Ref. & Prod. Co., McAllen	800	500	500
Ranne Ref. Co., San Antonio	1,000	500	500
Texas Co., San Antonio	3,000	2,800	2,800
Valley Ref. Co., Harlingen	1,000	700	700
Total	34,800	22,100	21,450

*Shut down.

NORTH CENTRAL TEXAS

Allstate Ref. Co., Thrall	2,500	(*)	(*)
Baird Ref. Co., Baird	1,500	1,200	1,500
Coleman Ref. Co., Coleman	750	300	300
Continental Oil Co., Wichita Falls	6,000	4,700	3,500
Crown Oil Co., Fort Worth	1,000	(*)	600
Exchange Pet. Corp., Albany	800	350	250
Falls Ref. Co., Wichita Falls	2,000	300	300
Gainesville Ref. Corp., Gainesville	1,800	1,500	1,500
Gratex Ref. & Fuel Oil Co., Graham	500	290	290
Gulf Oil Corp., Fort Worth	8,000	7,200	5,400
Hightower Oil & Ref. Corp., Brownwood	750	100	100
Jacksboro Ref. Co., Jacksboro	250	50	50
La Salle Pet. Co., Burkburnett	3,500	850	800
Magnolia Pet. Co., Fort Worth No. 1	12,000	6,200	5,700
Midway Ref. Co., Coleman	300	150	150
Norgold Ref. Co., West Olney	500	200	200
North Texas Oil & Ref. Co., Gainesville	600	300	300
Ohio Oil Co., Fort Worth	5,000	4,330	4,600
Olney Oil & Ref. Co., North Olney	3,500	2,000	1,800
Panhandle Ref. Co., Wichita Falls	4,200	2,800	2,600
Panhandle Ref. Co., Lueders	1,000	800	800
Pilot Point Ref. Co., Pilot Point	500	(*)	(*)
Sinclair Ref. Co., Fort Worth	5,000	3,000	3,000
Southland Ref. Co., Megargel	500	200	200
Taylor Ref. Co., Taylor	6,000	1,000	1,000
Taxman Ref. Co., Wichita Falls	3,250	3,000	3,000
Texas Pacific Coal & Oil Co., Caddo	1,000	700	600
Tucker Ref. Co., Wichita Falls	250	175	200
Tydal Ref. Co., Gainesville	1,850	1,800	1,650
Tyrene Ref. Co., Anarene	500	(*)	500
Wagoner Ref. Co., Electra	6,000	4,200	4,000
Total	81,200	47,695	44,890

*Shut down.

WEST TEXAS AND PANHANDLE

Aero Gas Ref. Co., Pecos	225	100	100
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Concho Ref. Co., San Angelo	250	100	100
Cosden Oil Co., Big Spring	12,500	9,500	9,000
Danciger Refs., Inc., Pampa	6,500	6,500	5,000
Danube Oil Corp., Borger	250	250	250
Gibson Oil Corp., Magic City	250	150	150
Gulf Oil Corp., Sweetwater	7,000	5,610	5,100
Howard County Ref. Co., Big Spring	2,000	700	700
Moutray Oil Co., Hawley	1,200	1,100	1,025
Onyx Ref. Corp., Hawley	2,000	1,200	1,100
Panhandle Ref. Co., Kings Mill	2,500	1,800	1,800
Phillips Pet. Co., Borger	50,000	24,150	24,000
Sageland Ref. Co., Sweetwater	1,000	500	500
Shamrock Oil & Gas Corp., Sunray	2,500	1,500	1,450
Shamrock Oil & Gas Corp. Meldavis	1,600	1,700	1,600
Stamford Ref. Co., Stamford	300	270	265
Standard Oil Co. of Texas, El Paso	14,000	9,700	9,700
Starlight Ref. Co., Ballinger	500	200	200

Company and location—	Daily capacity	Av. dly. runs— June	May
Texas Co., El Paso	2,000	1,300	1,300
Texas Co., Amarillo	6,000	3,100	3,100
West Texas Ref. Co., Pecos	6,000	1,600	1,600
Western Ref. Co., Mertzon	1,000	400	400
West Texas Oil & Ref. Co., Sweetwater	60	40	40
Wickett Pet. Co., Wickett	2,500	1,500	1,500
Total	126,835	80,970	77,980

EAST TEXAS

Beacon Oil & Ref. Co., Henderson	4,500	440	465
Cascade Ref. Co., Reed Switch	3,000	2,160	1,200
Clay Ref. Co., Arp	3,500	2,920	2,525
Danciger Refs., Inc., Longview	10,000	6,500	5,000
East Texas Ref. Co., Longview	10,000	7,300	7,500
General American Ref. Co., No. 1, Gladewater	4,000	(*)	(*)
General American Ref. Co., No. 2, Overton	5,500	(*)	(*)
General American Ref. Co., No. 3, Arp	4,000	(*)	(*)
Hurricane Pet. Corp., Overton	5,000	2,700	4,940
Hurricane Pet. Corp., Arp Ref., Arp	3,750	2,410	2,275
Lacy Ref. Co., Kilgore	1,000	370	(*)
Magnolia Pet. Co., Corsicana	5,000	3,500	3,500
Master Pet. Co., Waco	1,000	(*)	(*)

Company and location—	Daily capacity	Av. dly. runs— June	May
Ocean Pet. Corp., Kilgore	3,000	1,000	1,600
Premier Oil Ref. of Texas, Willow Springs	4,500	3,000	3,000
Paluxy Asphalt Co., Talco	5,000	4,000	1,200
Panama Ref. Co., Kilgore	3,000	(*)	1,500
Seltex Ref. Co., Gladewater	3,000	1,310	1,025
Sinclair Ref. Co., Camp Switch	3,500	2,000	2,000
Solvex Refs., Inc., Gladewater	4,500	3,000	3,000
Southport Pet. Co., Kilgore	5,000	3,000	3,000
Texas Co., The, Dallas	16,000	8,000	7,700
Tower Ref. Co., Overton	3,000	2,740	2,175
Total	110,750	56,350	53,605

*Shut down.

Magnetic Storm

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report a moderate magnetic storm began at noon June 5 and lasted until 8 p.m. (C.S.T.) June 6. Telegram reads:

"Moderate storm began Fifth. Twelve. Ended Sixth. Twenty. Central Time."

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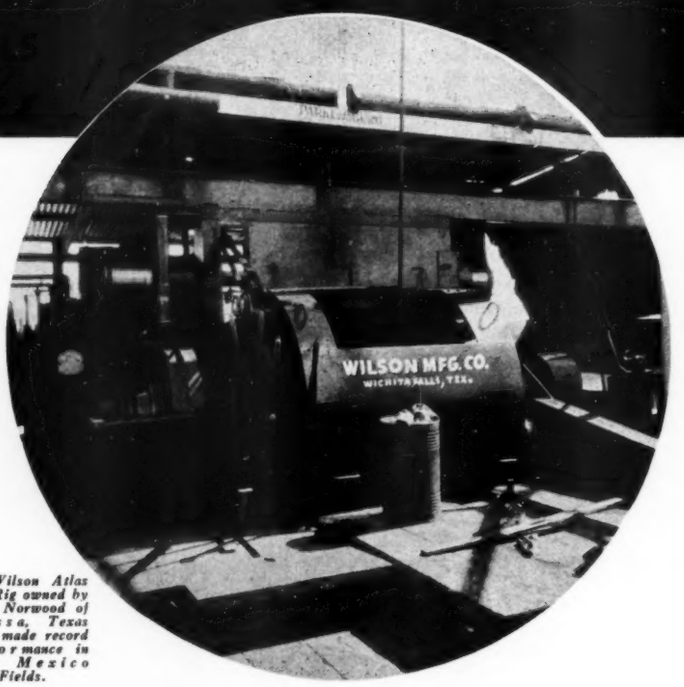

The Wilson Atlas Type Rig owned by E. C. Norwood of Odessa, Texas which made record performance in New Mexico Fields.

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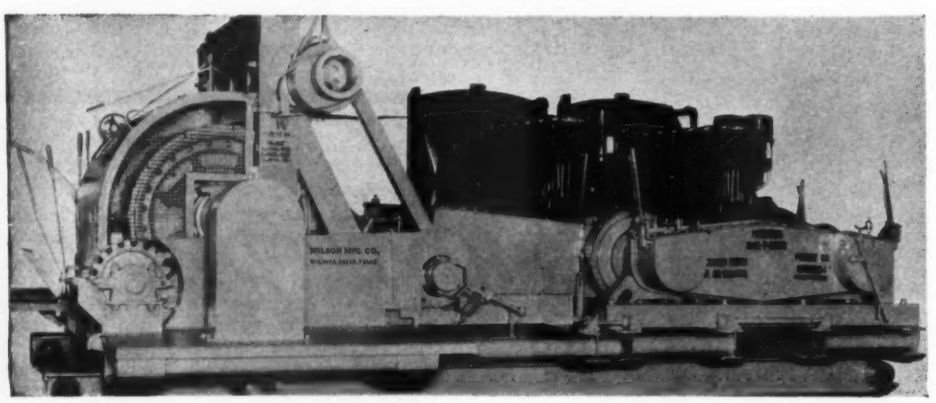

FEATURES

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FIELD OPERATIONS

Summarizing the Week's Developments

The Centrahoma district in Coal County, Oklahoma, may yet develop an oil field. Carter Oil Co. plugged back a 7,726-foot test that was barren in the lower levels and perforated casing at 6,140 to 6,235 feet. The well flowed by heads on Saturday and Sunday, making one flow over the derrick. The oil is very high in gravity. The Moore pool in Cleveland County was extended northerly, and an 18,782-bbl. potential was given to a well in the south end of the pool. Two other wells ready for completion were endangered by sand cutting connections and the owners may ask for an arbitrary potential for the remainder of the month. More big wells were reported from the Billings pool in Noble County.

KANSAS

It was a sad week for wildcatters in Kansas, as a number of important tests were abandoned as dry in central and western counties.

TEXAS

A 2,500-bbl. well was completed in Clay County, Texas, W. H. Gant No. 3 Worsham. Ector County's 10 new oil wells averaged 1,000 bbls. per well initially, while the 16 new wells in Ward County averaged over 1,000 bbls. per well. Twelve new wells in Winkler County averaged 850 bbls. per well. An oil pool and a gas field appeared to have been opened in McMullen County, in Southwest Texas. A gas discovery was made in Goliad County and a new sand for the field was found in the McCampbell field, in Aransas County. Nueces County's tenth pool seemed closer than ever with additional testing of Seaboard Oil Co.'s wildcat, 9 miles west of the Chapman ranch. No important results were recorded in the Texas side of the Gulf Coast but on the Louisiana side oil discoveries were made in Lafourche, Acadia and St. Charles parishes in preliminary tests. Interest in the Eastern Texas country runs mainly to Trinity tests and while there have been numerous disappointments, a deep test in the Cayuga field in Anderson County may make a gas and distillate producer.

TEX-LA-ARK

While results were meager in the Rodessa area, five locations were staked in the Schuler field in Union County, Arkansas, and three new wells in the Lisbon field in Claiborne Parish, Louisiana, brought production up to a peak of 7,175 bbls. for that new field. There are 27 oil wells in the field.

MICHIGAN

Six new wells in the Buckeye field in Gladwin County, Michigan, averaged 1,915 bbls. per well and two in the Allegan field averaged 1,000 bbls. each. One well in the Buckeye field started at 225 bbls. per hour. The southern end of the field was twice extended.

CALIFORNIA

The Wilmington field in Los Angeles Basin, California, threatens to hit a potential of 100,000 bbls. per day unless it is curtailed. Nine wells were completed there last week, and the field is producing 50,000 bbls. per day.

Completions in All Fields

(Week Ending June 5, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
N. Y., Pa., W. Va.	44	21	5	70	1,591	1,294
Ohio	16	15	9	40	440	250
Indiana	0	0	0	0	40	74
Kentucky	16	4	3	23	166	91
Illinois	0	0	2	2	29	21
Michigan	14	0	1	15	371	311
Kansas	34	1	19	54	1,006	649
Oklahoma	33	0	10	43	1,173	1,019
Texas:						
North Central Texas	42	0	42	84	1,206	1,191
West Texas	49	0	3	52	1,095	582
Texas Panhandle	8	2	0	10	276	300
East Texas	57	0	1	58	915	1,186
East Central Texas	15	1	5	21	295	122
East Texas Border	2	0	1	3	174	26
Gulf Coast Texas	33	5	5	43	616	480
Southwest Texas	51	1	25	77	1,420	1,209
Total Texas	257	9	82	348	5,997	5,096
North Louisiana	9	1	4	14	274	291
Gulf Coast Louisiana	7	0	6	13	205	166
Total Louisiana	16	1	10	27	479	457
Arkansas	0	0	0	0	54	40
Montana	6	0	3	9	66	73
Wyoming	3	0	0	3	43	38
Colorado	0	0	0	0	6	13
New Mexico	22	0	2	24	334	219
Utah	0	0	0	0	0	4
California	21	0	5	26	615	479
Total United States	482	51	151	684	12,410	10,128
Total previous week	465	54	123	642		
Difference	17	3	28	42		

Outstanding Fields—Highlights

(Week Ending June 5, 1937)

Field—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Amelia	3	13	7	3,436	47	3,408
Hastings	3	17	6	3,499	185	14,569
Flour Bluff	0	8	3	530	51	4,480
Saxet	3	42	7	985	148	36,900
Lopez	0	3	2	100	337	8,385
East Texas	50	115	57	2,224	22,763	468,247
Talco	7	32	8	2,333	331	29,900
Ector County	22	94	13	10,098	423	22,000
Winkler County	29	69	12	10,208	1,241	44,400
OKLAHOMA						
Oklahoma City	2	15	0	.....	1,114	152,200
Fitts	3	54	11	23,185	754	93,425
Olympic	0	14	0	.....	353	15,125
KANSAS						
Ellis County	9	32	3	8,733	112	8,264
Reno County	5	30	2	6,187	426	18,351
Russell County	13	62	8	11,838	701	31,327
Rice County	11	66	8	13,127	857	48,500
NEW MEXICO						
Lea County	17	97	22	2,719	2,186	113,330
LOUISIANA-TEXAS						
Rodessa, La.	0	17	0	.....	376	49,535
Rodessa, Tex.	4	32	2	275	282	44,245
Lisbon, La.	6	20	3	2,160	27	7,175
MICHIGAN						
Buckeye	20	83	6	11,490	106	17,052

Eastern Field Report

By STAFF CORRESPONDENT

IMPORTANT NEW DEEP TEST, SOUTHWEST PENNSYLVANIA

PITTSBURGH, Pa., June 7. — Important new deep tests in Southwest Pennsylvania have been announced. In Hampton Township, Allegheny County, South Penn Oil Co. and others are moving in material on the Christian Z. Schove farm scheduled for the Oriskany sand. It is on the surface high of the Kellersburg anticline and the elevation is 1,198.68 feet. The Oriskany sand will be about 6,000 feet. Charles L. Sample is the drilling contractor.

In Fayette County, Potter Development Co., William E. Snee and others are moving a rig for No. 2 on the Summit Hotel property on Chestnut Ridge in South Union Township, 1,250 feet due south of No. 1 and 500 feet from the west farm line. The test on this farm was bottomed at 6,666½ feet or the Onondaga and due to a crooked hole was impossible of casing. A second hole branched off at 4,250 feet and was carried to bottom and cased in the Tully lime. When the gas from the new hole gauged over 1,000,000 feet a day with an incompleted shut-in pressure of 2,150 pounds, drilling was stopped, a line laid, and the gas turned in the line from both the new hole and from the old hole which comes up outside of the 7-inch casing and then between the 7-inch and 8-inch casing to the bradenhead. The new test is expected to drill through the Onondaga and reach the Oriskany.

Important news comes from the deep test of Potter Development Co., William E. Snee and others on the Indiana Savings & Trust Co. lease in Fairfield Township, Westmoreland County. Top of the Corniferous lime was reached at 7,575 feet and after the tools came out of the hole at 7,594 feet, there was a showing of gas which increased to 104,000 feet. The tools were run in again and the gas increased to 112,000 feet and on a second run the gas increased to 117,000 feet. This test has little casing in the hole and no decision has been reached whether to run casing or to deepen the hole to test the increase. It is acting similar to the Summit well.

This test is 1.4 miles south 47 degrees west of the intersection of Cambria, Somerset and Westmoreland counties on the top of the Laurel Ridge dome. It is about 12 miles from Johnstown on the Menocher Highway between Johnstown and Ligonier.

Thirty-six operations were completed during the week, of which five were dry, 20 gas wells, and 11 producers with an initial daily production of 90 bbls. One fair Oriskany gas well was completed in Kanawha County, West Virginia, and the new production was chiefly in Southeast Ohio.

SOUTHEAST OHIO

In Knox County, Preston Oil Co. completed a test on the Lloyd Bailey farm in section 10, Jackson Township, in the Clinton sand at 3,176 feet. It produced 10 bbls. the first day and is shut down for cleaning out tools to be rigged before shot.

In Monroe County, Bentz Oil Co. drilled No. 3 Cline and Howell on Long Eddy in section 23, Washington Township, through the Injun sand to 1,650 feet and it was dry.

In Morgan County, 3 miles south of Chester Hill in section 13, Marion Township, W. T. Bowman and others completed a test on the C. C. and Adam Thompson farm in the First Cow Run at 449 feet. After shot it produced 4 bbls.

In Noble County, L. A. Patton drilled No. 10 George Warren in the central part of section 4, Jefferson Township, through the Stray sand at 963 feet. It had only a very light showing of oil and no gas.

In Perry County, Pure Oil Co. drilled a test on the Clarence T. Miller farm, NE quarter section 18, Clayton Township, to 3,190 feet, the Clinton sand. It has 380,000 feet of gas and about 10 bbls. of oil before shot.

In Coal Township, Perry County, Preston Oil Co. completed No. 1634 Sunday Creek Coal Co., NE quarter section 26, Coal Township, in the Clinton sand, total depth 3,695 feet. It produced 35 bbls. the first day after shot. In the NE quarter section 16, Reading Township, Wiser Oil Co. completed a test on the J. McQuaid farm in the Berea sand at 860 feet, gauging 250,000 feet.

In Washington County, F. M. Russell and others drilled a second test on the Joseph Lorentz farm 2 miles southeast of Wolf Creek, Lot 1072, Palmer Township, through the First Cow Run sand to 685 feet. It was dry.

In Columbiana County, the test to the Oriskany sand of Natural Gas Co. of West Virginia on the D. Desellem farm, section 26, Wayne Township, is drilling at 2,000 feet.

SOUTHWEST PENNSYLVANIA

Three operations were completed in Southwest Pennsylvania, which resulted in one dry hole, one gas well, and one producer. In Greene County, Charles Mong and others completed the test on the J. L. Metz lease in Center Township at 3,313 feet. Top of the Nineveh Thirty-foot sand was at 3,280 feet with only a small showing as the first pay but oil and a small amount of gas at 3,305 feet. It is rated at 8 to 10 bbls.

In Richhill Township, Manufacturers Light & Heat Co. completed the test on the Ward Chambers farm, Greene County, at 3,057 feet. It is dry below the Injun sand but the gas in that formation gauges about 106,000 feet.

In Perry Township, Greene County, Equitable Gas Co. deepened the test on the George Craig farm to 3,178 feet. The Fifth sand was at 3,010-20 feet with gas at 3,043 feet, which blew down below 40,000 feet. The Bayard sand was at 3,042-79 feet with a small oil showing. It will be abandoned.

In Center Township, Greene County, J. B. Orndoff is moving in rig for No. 2 Mattie I. Scott. South Penn Oil Co. has a rig up for No. 11 Samuel Harvey and is moving in tools. Carnegie Natural Gas Co. has a location on the J. B. Orndoff farm.

In Perry Township, Carnegie Natural Gas Co. will deepen No. 1 O. E. Lemley, a former Injun sand producer; depth, 1,931 feet. In Richhill Township, Natural Gas Co. of West Virginia is drilling by tools at 2,290 feet on the O. M. Ginnage farm. In Wayne Township, Equitable Gas Co. is drilling at 1,757 feet on the Z. D. Griffith farm, and has a rig to deepen No. 1 B. F. Thralls. In Aleppo Township, Cochran & Cochran are down 2,110 feet on the No. 3 John Strope.

In South Franklin Township, Washington County, Union Gasoline & Oil Corp. has locations for a second test on the J. D. Hazlett farm and No. 7 B. F. McClain farm. In this township, this company is drilling at 2,200 feet on the H. L. Day farm.

In Amwell Township, Washington County, Peoples Natural Gas Co. is building a rig on the Walter E. Redd farm. Carnegie Natural Gas Co. is down 250 feet in No. 2 Farabee. South Penn Oil Co. has reached 2,430 feet on the J. Q. Zimmerman farm. Union Gasoline & Oil Corp. is drilling at 1,920 feet on No. 6 A. O. Vankirk.

In Morris Township, Washington County, Parkinson & Dague are drilling at 3,165 feet deepening No. 2 M. B. Rogers. Top of the Fifth sand was at 3,150 feet. In Bethlehem Township, William Potts & Co. have a rig up for No. 2 Ross Mowl.

In Peters Township, Washington County, Carnegie Natural Gas Co. has made a location on the W. J. McMurray farm. Henderson & Co. are drilling at 1,605 feet on the Bell heirs farm. R. M. Duden and others are drilling No. 2 J. E. Johnson and William Smith the test on the W. Donaldson farm. In South Strabane Township, V. E. Behm and others shut down at 635 feet with engine trouble on the Lucy Smith test. Carnegie Natural Gas Co. has reached 1,126 feet on the S. W. Bails farm. Equitable Gas Co. is drilling at 980 feet on the Mary Walker farm in Amwell Township.

Deep Tests

John T. Galey and others reached the top of the Corniferous lime at 4,606 feet in the deep test on the Minnie Weigle heirs (Duff) farm in South Beaver Township, Beaver County. This places it 7 feet higher on structure than their Oriskany gas well on the William Graham (Calvin) farm. In this township, the test of A. J. Wise, Jr., and others on the Beaver Falls Airport Corp. lease is drilling at 4,770 feet or 165 feet in the Corniferous lime.

In Lawrence County, Carnegie Gas Co. started the new hole in the deep test on the W. A. Currie farm in South Shenango Township. In Washington County, Norwood Johnston and others drilled 6 feet past the lost tools on the McBurney farm, Mount Pleasant, and had a gas blowout which caused a cave on top of the new hole. The drilling tools were brought to surface.

WEST VIRGINIA

Six small producers were completed in West Virginia. In Gilmer County, Decker Drilling Co. completed a test on the Mary Jane Bush farm in Troy district in the Maxton sand at 1,440 feet showing for 5 bbls. a day.

In Ritchie County, West Turn Oil Co. completed No. 5 A. J. Glass heirs in Clay district in the Injun sand at 1,935 feet good for 1½ bbls. In this district, Mahaney & Lucas No. 8 J. F. and Laura Kelley farm was drilled through the Injun sand to 1,967 feet and dry.

In Tyler County, Gale Oil Co. completed No. 19 Sarah Thistle in Union district in the Maxton sand at 1,349 feet showing for 9 bbls. In Ellsworth district, C. W. Edgar completed a test on the John F. Eastham farm in the Keener sand at 1,920 feet, good for 1 bbl. a day and 20,000 feet of gas.

In Wetzel County, Carnegie Natural Gas Co. deepened No. 1506 Z. T. Stewart in Church district to 2,920 feet, the Fourth sand. It is showing for 3 bbls. along with 53,000 feet of gas.

In Wood County, Royal Craig completed a test on the Asa and Mary Ingram farm in Williams district in the Maxburg sand and the Maxton sand, depth 1,375 feet, good for 1 bbl. a day and 20,000 feet of gas.

Gas Wells

In Boone County, Owens Illinois Glass Co. completed three wells. In Scott district the test on the A. J. Ballard Tract B was finished at 2,120 feet. Big lime was at 1,386-1,590 feet; gas, 1,512 feet; Big Injun, 1,590-1,617 feet; Berea, 2,060-90 feet, with gas at 2,060-75 feet. The gauge is 128,000 feet. No. 26 Cassingham Coal Land Co. was completed at 2,556 feet. Big lime was at 1,817-32 feet; Big Injun, 2,020-54 feet; Berea, 2,496-2,524 feet; with 196,000 feet of gas at 2,500-18 feet. No. 21 Allen and Pryor, Scott district, was completed at 2,086 feet. Big lime was at 1,365-1,543 feet; Big Injun, 1,543-1,622 feet; gas, 1,419-1,512 feet; Berea 2,041-56 feet, with gas at 2,047-54 feet. Total gauge was 266,000 feet.

In Cabell County, Kentucky, West Virginia Gas Co. completed a test on the N. B. Morrison farm in McComas district at 3,410 feet. Big lime was at 1,500-1,658 feet; Big Injun, 1,722-1,802 feet; Berea, 2,268-80 feet; Brown shale, 3,040-3,395 feet, with gas at 3,120-30 feet. The gauge was 288,000 feet. In the same district, W. C. Kingery and others completed No. 3 Sarah E. Midkiff at 1,890 feet. Big Lime was at 1,087-1,245 feet; Big Injun, 1,312-65 feet; Berea, 1,871-90 feet, with 134,400 feet of gas at 1,872-75 feet.

In Braxton County, Pittsburgh and West Virginia Gas Co. completed four wells, all in Birch district. No. 7601 G. B. Howell was completed at 1,464 feet, with the top of the Third Salt sand at 1,455 feet and 200,000

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Southwest Texas District

By
GEORGE WEBER

BUSY WEEK IS FEATURED BY DISCOVERIES OF IMPORTANCE

HOUSTON, Tex., June 7.—One new oil field, a new gas field, and a number of discoveries of new field sands and indicated field discoveries combined to make the past week an important one in Southwest Texas development. Oil production was opened on the Ezell ranch of McMullen County, shortly following the opening of a gas area in the same county. Goliad County gained new gas production in an area long marked as a prospect. Aransas County figured prominently in developments, with a new sand added to the McCampbell field, and the Barnsdall wildcat, located in the Lamar Prospect, drilling below the indicated production horizon.

Nueces County's tenth pool is more assured this week, with additional production tested in Seaboard Oil Corp. No. 1 Luby, a wildcat. In the same county, the extension of a deep Saxet sand is strongly indicated. Duval and Webb counties claim considerable attention with the developments in the new North Sweden and Killam fields, and the Lower Rio Grande Valley district is becoming more active, as new discoveries attract outside operators.

The Fault Line zone continues to support a minor boom, particularly in Caldwell County, where the Luling-Branyon area is most active. The new Batesville field of Zavalla County has not yet received any definite announcements of further tests, but leasing is very active in the entire area.

A second important sand cored in the Seaboard Oil Corp. No. 1 Luby, Nueces County wildcat, practically assures that county of its next oil field. The test, 9 miles west of the Chapman Ranch field, recovered 250 feet of oil on a drill stem test at 4,319-39 feet two weeks ago, and closely following this discovery, a second sand body was cored and tested.

No. 1 Luby was carried deeper last week after testing the 4,340-foot sand, finding the second body below 5,000 feet. A drill stem test made at 5,028-47 feet showed a working pressure of 500 pounds, and 140 feet of high gravity oil together with 10 feet of brackish water was recovered in 12 minutes.

The test was cored further to 5,057 feet, and a drill stem test made at 5,043-57 feet showed a working pressure of 175 pounds in 10 minutes. The test flowed five minutes and 420 feet of pipe line oil of 44 gravity was recovered. After coring 10 feet more another test was made, and 150 feet of oil and drilling mud together with 330 feet of clear salt water was recovered at 15 pounds working pressure in 10 minutes. Operators are coring ahead in the wildcat.

Deep Test Abandoned

Results of a different nature were seen in the Chapman Ranch field to the east. The Seaboard Oil Corp. No. 5 Chapman was abandoned at 6,494 feet having encountered no shows. This further defined production in the field, which is showing disappointing results as a whole.

Toward the north, in the Agua Dulce area, attempts to kill the Texon Drilling Co. No. 2 Sevier, cratered well, were abandoned during the week, as the offset test, No. 2-B Sevier, was completed as a producer. The No. 2-B Sevier has been on the sand at 6,465 feet for several weeks, pumping water into the formation at the rate of 400 bbls. per hour, in an effort to kill the wild No. 2. United Producers Co. No. 1 Harvey, within the limits of the Agua Dulce field, is still working to complete in the newly discovered sand at 7,380 feet.

The chances look favorable for a 5,000-foot northward extension to production in the 6,700-foot sand of the Saxet field. Houston Oil Co. No. 9 McGregor, located in Survey 582 was still testing at 6,732 feet at latest reports. The well showed a recovery of 550 feet of 41-gravity oil in 15 minutes last week at 6,727-32 feet and a working pressure of 250 pounds.

Saxet's New Producers

Saxet gained several new producers, and activity in the field increased, strengthening its position as one of the busiest areas in the United States. Producers were brought in flowing from the 4,200-foot, 4,400-foot, 4,800-foot, 5,800-foot, and 6,900-foot sands, totaling seven wells and nearly 1,000 bbls. per day initial production. The deepest test, Hiawatha Oil Co. No. 8 Hutchins, located in Lot 30, of the Sheppard Farm tracts, perforated at 6,886-92 feet and came in making 130 bbls. per day, an important addition to the deepest producing sand in Southwest Texas.

Failure was chalked up on Clarkwood Oil Co. No. 1 Baldwin, wildcat located between the Saxet field and Corpus Christi. The test was abandoned during the week at a toaal depth of 7,040 feet.

Aransas County gained in importance this week, as another producing sand was opened in the McCampbell field. The Buckingham Oil Co. No. 6-A McCampbell, after failing to produce in the 7,120-foot sand was perforated at 6,783½-87 feet and was last flowing into storage with no gauge as yet available. The sand was reported as cored at 6,782-94 feet.

The discovery of this third production horizon in McCampbell, enhances the value of the field. If it proves as productive as the second sand opened at 7,120 feet, it will bring importance to the field. The discovery sand of the field proved somewhat erratic, with complications of high gas pressures and a thin oil sand.

In the Lamar Prospect, northeast of Rockport, Barnsdall Oil Co. is coring No. 2 Edwards below 8,250 feet. The test encountered high gas pressures around 8,000 feet where No. 1 blew out and cratered.

San Patricio County will offer much of interest for the next few weeks. The Gregory area in the southeastern section of the county has three wildcats starting, and to the northwest, two other tests are drilling. One of the active tests in the Gregory area, Eleanor Oil Co. No. 1 Green Estate is a workover. The operators are washing the hole, bottomed at 6,800 feet, and interest is reviving in the area, which several months ago was the scene of an active leasing campaign.

New Pool in McMullen

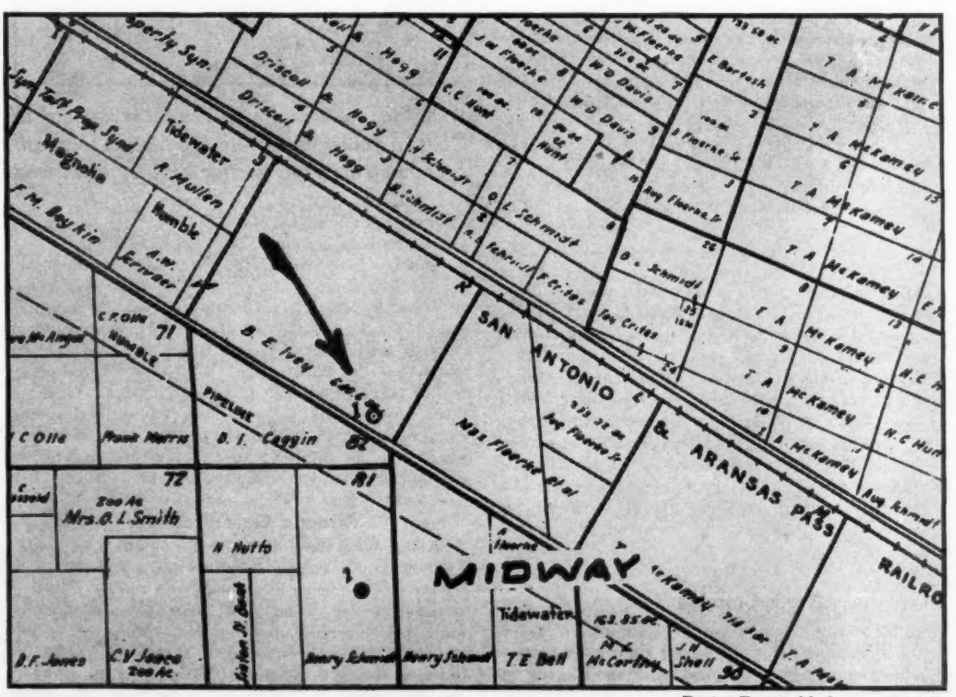
McMullen County gained a new oil field this week, shortly following the opening of a new gas production in the same area. Edwin M. Jones No. 4 Ezell, SE SE section 20, Ezell ranch, 3 miles southwest of Simmons City, came in making an initial production of 10 bbls. per day on a quarter-inch choke. Other reports placed the initial as high as 180 bbls. per day. Total depth of the wildcat is 1,545 feet and casing was perforated at 1,523-33 feet. The crude is heavy, averaging 21 gravity. The South Texas Geological Society has given the new producing area the name Ezell.

Gas Field in Goliad

The new gas field in Goliad County was opened when the Goliad Oil Co. No. 1 Cole, after failing to remove stuck drill stem, completed the wildcat for a gasser through the drill stem and is moving over for a second test. The test is 1,500 feet north of LaBahia, and is in an area long known for its high pressures. Three wells have blown out in the immediate area, and No. 1 Cole nearly followed suit when a high pressure gas sand was found at 5,545 feet.

High gas pressure is also being found in Jim Wells County by the George E. Smith in No. 1 Wade ranch, a Sandia field test. The deep well, bottomed at 5,700

(Continued on Page 92)



Porter Regenold, Corpus Christi.

Phillips Petroleum Co. No. 1 Ivey indicated by the arrow is coring in the horizon in which the same company's No. 1 Schmidt, discovery well of the Midway field is producing. The No. 1 Ivey is located approximately three-quarters mile north of the one-well field

Texas and Louisiana Gulf

TESTS IN THREE LOUISIANA PARISHES LOOK PROMISING

By
F. L. SINGLETON

HOUSTON, Tex., June 7.—Three discoveries in the Louisiana Gulf Coast district were indicated the past week with the coring of oil sand in wildcat tests in Lafourche, Acadia and St. Charles parishes. Preparations were being made to test one of the wells while the two others are coring deeper.

On the Golden Meadows Prospect, several miles southwest of the Valentine field, Lafourche parish, Fohs Oil Co. No. 1 State Long Lake is running 7-inch casing for a production test following a Schlumberger survey. Sand showing gas was cored at 7,892-7,917 feet and sand showing oil at 9,368-91 feet, which had a shale break in the core at 9,355-85 feet. A third core was taken at 9,391-9,406 feet, the total depth and was oil sand. The test is located due north of the Humble Oil & Refining Co. deep discovery at Houma, in Terrebonne Parish, on a large block of acreage centering in section 65-17s-19e.

Across the parish line in southern St. Charles Parish, Amerada Petroleum Corp. and Louisiana Land & Exploration Co. No. 1 State cored sand showing oil at 6,828-95 feet, and shale and sand showing salt water at 6,868-88 feet. The hole was cored to a total depth of 6,915 feet and a string of 9⅝-inch casing is being cemented on bottom. The hole probably will be drilled deeper before the sand section at 6,868-88 feet is tested. The well is on the Black Prince Island Prospect, centering in section 12-15s-20e.

Echols Test Watched

Along the Gulf Coast, attention was centered on a scheduled production test to be made on George Echols No. 4 Bennett, 1 mile north of the Heyser field in Calhoun County. Originally completed in the regular producing horizon for a large distillate well at 5,491 feet, the hole was deepened to 5,747 feet, where a 10-minute drill-stem test showed 540 feet of oil and 60 feet of oily drilling mud at 5,742-47 feet. The oil tested 36 gravity, and screen and liner are being set for a production test. This is expected to open a new sand for this area and set off an active drilling campaign. Offset acreage is held by Sinclair Prairie Oil Co. and Sun Oil Co.

In the Sandy Point field, Brazoria County, Bunte Oil & Gas Co. and others No. 1 J. A. Fite, offsetting the discovery well, originally completed for a distillate well through perforated casing at 6,467-75 feet, flowed 15 bbls. of 48-gravity oil per day through a quarter-inch choke with tubing pressure 650 pounds and casing pressure 2,400 pounds. One and a half miles southeast of the discovery well, Jack Frazier's No. 1 Sharp is drilling below 6,700 feet and is checking over 200 feet lower than the discovery well. Salt water sand was encountered at 6,683 feet.

An interesting outpost test for the Anahuac field is to be drilled by the Humble Oil & Refining Co. It is No. 1 W. L. Garth, about 1½ miles east of the nearest production in section 68, T.&N.O. Survey. It is located in the SW quarter of the section, about a half mile northeast of No. 1-C Middleton, a dry hole in section 88. In the Cotton Lake field, Salt Dome Oil Corp. No. 1-C Lawrence topped sand at 6,498 feet and is bottomed in sand at 6,509 feet, with 7-inch casing cemented at 6,504 feet.

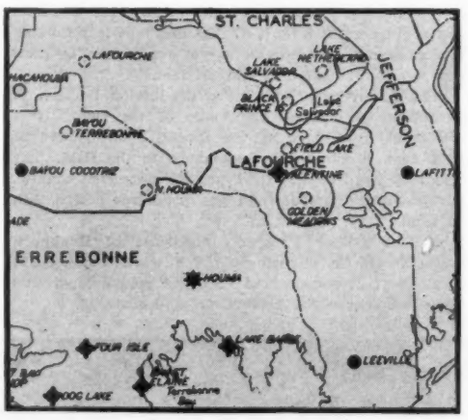
North Crowley Test

On the North Crowley Prospect, Acadia Parish, Humble Oil & Refining Co. No. 1 Federal Land Bank of New Orleans, section 34-8s-1e, topped sand showing oil at 7,929 feet and is coring ahead in shale below 7,987 feet after three drill-stem tests failed. These tests were made from 7,928-39 feet and from 7,939-44 feet. All failed owing to the testing tool slipping. The well is about 6 miles north of Crowley, on a large block on which two structures were found by geophysics. The company recently abandoned a deep test on the South Crowley Prospect, several miles from the present test.

William Helis No. 1 City of New Orleans, on the Marchland salt dome, Lafourche Parish, made a second production test through perforations at 7,270-80 feet and is shut down after showing salt water. Location is in section 19-23s-23e.

On the Pine Island Prospect, Jefferson Davis Parish, Louisiana Crusader Oil Co. No. 1 Langley is coring shale below 8,214 feet and continues to encounter several gas sands, the last one being at 8,170-82 feet. Location is in section 36-7s-5w.

Two more producers were completed on the southwest flank of the old Jennings field, Acadia Parish. W. T. Burton No. 1 Roboria, the most southerly well completed, flowed 650 bbls. per day through a quarter-inch choke through perforated casing in oil sand at 6,500-6,700 feet. To the northwest, in section 42-9s-2w, Superior Oil Co. No. 3 Leckelt flowed 630 bbls. in 22 hours through a 14/64-inch choke with tubing pressure



Locations of two geophysical prospects in Coastal Louisiana where production tests are scheduled to be made after oil sand was cored

1,200 pounds and casing pressure 1,250 pounds. Screen was set from 6,665 to 6,731 feet, the total depth.

Another 10,000-foot active test was recorded for the district when Texas Co. No. 1 State Bateman Lake, St. Mary Parish, section 21-16s-12e, reached a depth of 10,013 feet. It is drilling ahead in sandy shale. The same company's No. 1 Bayou Sale, which blew out at a total depth of 12,261 feet, is shut down waiting on a drilling barge to be moved in.

In the Charenton field, St. Mary Parish, Pan American Production Co. No. 1 South Coast Corp., a south outpost test, perforated casing at 7,908-13 feet and is plugging back to sidetrack after showing salt water.

Atlantic Gets Producer

In the Way area of the Dickinson field, Atlantic Refining Co. No. 2 Sealy Hutchins flowed 671 bbls. per day through a quarter-inch choke with tubing pressure 1,100 pounds and casing pressure 600 pounds. Production is from perforations made in the 7-inch casing at 8,127 feet. It is an east offset to the company's No. 1 Anderson in the P. G. Merritt Survey. In the Gilliock area production was extended 1,000 feet north by the completion of Stanolind Oil & Gas Co. No. 2 Dameani, which flowed 732 bbls. per day through a quarter-inch choke from a screen setting at 8,638-8,800 feet, the total depth. Future drilling in this particular area will be watched with interest since development is approaching a large fault traced in a northwest southeasterly direction.

Republic Production Co. and Houston Oil Co. No. 11 Brooks, Silsbee field, Hardin County, flowed 437 bbls. per day through a quarter-inch choke with tubing pressure 800 pounds and casing pressure 750 pounds. It is 933 feet due west of No. 8 and is producing from a screen setting in the lower Cockfield sand at 6,953-59 feet, the total depth. The same company's No. 14 Brooks is bottomed at 6,915 feet and is being tested after setting screen from 6,908 feet.

Segno Field

In the Segno field, Polk County, J. K. Dorrance No. 4 Wing flowed 610 bbls. per day through a quarter-inch choke. Production is from a screen setting in oil sand at 5,228-46 feet, believed to be the Conroe sand or a stray sand between the Upper and Lower Cockfields. In the same area Gulf Oil Corp. No. 1 Ragan is drilling in shale below 5,257 feet with no show reported in the discovery horizon encountered below 5,100 feet. This hole probably will make a thorough test of the lower Conroe sand. One and a half miles southwest, Humble Oil & Refining Co. is rigging up for No. 4-B Kirby Lumber Co., an east offset to No. 3-B, completed last week for a good producer. The producing sand in this test has been definitely identified as the Upper Cockfield instead of the lower section as reported last week. The well is said to be producing on the downthrow side of a fault. From the completed wells, the structure is very faulted and a careful drilling program is being followed.

On the Friendwood Prospect, Brazoria County, Humble Oil & Refining Co. has derrick up for No. 1 D. J. Settegast, in the Parry & Austin Survey. This prospect, covering several thousand acres, is in the northern part of Brazoria County and extends over into Galveston and Harris counties. Several dry holes have been drilled in this area during the past few years.

In the Hardin area of Liberty County, Jack Frazier No. 1 Henchey Heirs topped the Heterostegina at 3,848 feet and is drilling in shale below 5,400 feet. It is 2½ miles southwest of the discovery well and is checking approximately 50 feet higher.

Glenn H. McCarthy No. 2 Foley, 2,000 feet north of the discovery well of the Palacios field, Matagorda County, is coring below 7,900 feet in sand which has an odor of oil and gas.

Petroleum, Natural Gas Bibliography

The University of Texas, Austin, Tex., announces publication of "Petroleum and Natural Gas Bibliography," by Robert E. Hardwicke, attorney, Fort Worth, Tex., and special lecturer on petroleum economics, Department of Petroleum Engineering. The author has for the most part classified the items of literature in English for which copyrights have been issued. There are included many other published items catalogued by the Library of Congress and technical libraries. References are also made to indexes, lists and other bibliographies such as publications of the government bureaus and departments, technical societies and institutions.

The book contains 175 pages and costs $1.50 in paper binding or $2 in cloth and can be obtained from Department of Petroleum Engineering, University of Texas, Austin, Tex.

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Michigan Field Report

By
PAUL A. ELLIOTT

TWO LARGEST PRODUCERS IN BUCKEYE AND SALEM AREAS

MUSKEGON, Mich., June 7.—For the second successive week the Buckeye Township field of Gladwin County, in Central Michigan, and the Salem Township field of Allegan County, in West Michigan, shared first honors in Michigan as both witnessed the completion of their largest producers.

Together the two latest developing centers of drilling activity accounted for 14,490 bbls. of the state's total of 14,770 bbls. of new initial production from 14 oil wells, virtually representing the entire completion report as there were no new gassers finished and no dry holes, though one shallow test in Elba Township, Gratiot County, was abandoned.

Number of completions by townships and the initial they recorded was as follows: Salem of Allegan County, two wells for more than 2,000 bbls. combined; Billings-Gladwin, two for 390 bbls; Buckeye-Gladwin, six for 11,490 bbls.; Elba-Gratiot, one gas test abandoned; Sherman-Isabella, one for 225 bbls.; Greendale-Midland, one for 135 bbls.; Jasper-Midland, one for 230 bbls.; and Ogemaw Township, of Ogemaw County, one for 300 bbls. of oil daily.

An interesting show of oil also was encountered in the Upper Traverse in Washington Township, Gratiot County, while a Dundee oil test in Clayton Township, Arenac County, passed up a heavy flow of 22,000,000 feet of gas daily in the Berea to continue its search for crude in the lower formation.

Salem-Allegan

Of outstanding importance because of the unusual and unexpected size of the wells in the Upper Traverse limestone were the two record producers of the new Salem Township, Allegan County field, brought in by Lentz & Miller, Inc., of Muskegon, and Saturday reported making more than 1,000 bbls. each daily.

First to complete acidizing the shallow limestone was No. 1 M. Brenner, SW NW NW section 16-4n-13w, Salem Township, which started flowing Friday night at 40 bbls. an hour but by Saturday morning had increased to about 50 bbls. for an estimated 1,000 bbls. daily flush production at a total depth of 1,615 feet.

Making even more by Saturday noon was No. 1 Buege, SE SW NE section 17, same township, which started after acidizing at 1,622 feet with a flow of 60 bbls. an hour, also reported increasing late Saturday. One estimate placed the combined initial production of the two new wells at more than 2,500 bbls. a day, which would more than double the output of about 1,500 bbls. settled production from five previously completed Upper Traverse producers in the 800-acre proved field. It is estimated settled production of the seven producers this week will be from 2,000 to 2,500 bbls. a day.

Eight rigs were active in the field, all of them starting or about to start offset and extension tests, while three wildcats were getting under way in Allegan, Otsego and Trowbridge Townships, near the south edge of the county.

Buckeye—Gladwin

Of like importance in the Buckeye Township, Gladwin County field, center of the greatest drilling play the state has ever witnessed in its 12 years of commercial oil and gas development, was completion by the Mammoth Producing & Refining Corp. of the No. 3 Ockerman well, SE SE NW section 11-18n-1w, for an initial flow of 225 bbls. an hour and an estimated daily output of 5,400 bbls. from the Dundee, naturally.

The Ockerman, two locations east of the C. W. Teater Domokos drilled in several weeks ago with the previous record flow of the field, 3,504 bbls. a day, was completed at 3,630 feet, 88 feet in the Dundee limestone. The new well was rated the largest oil producer encountered in Michigan during the last three years, being equaled only by the flush production of major producers in the Porter Township, Midland County, field in 1933-34. It is in the same section as the discovery well of the northeast sector of the Buckeye field, brought in by the Wicklund Development Co. on a state lease several months ago.

It still had the tools in the hole when it started flowing 225 bbls. an hour, and lacked sufficient field tankage to take a 24-hour test. The two new wells in Allegan County also lacked field tankage enough to get an accurate gauge of initial production immediately.

Billings Township

Of almost as great interest to operators in Central Michigan was the completion of two Billings Township tests in Gladwin County definitely extending the southeast sector of Buckeye moré than a mile to the southwest.

Caldwell & Pray No. 1 Flynn, SE SW NW section 4-17n-1e, Billings Township, made 350 bbls. a day after heavy acid treatment in the Dundee drilled to a total depth of 3,614 feet, 83 feet in the limestone and through a pay streak encountered from 3,598 to 3,602 feet.

Three-fourths of a mile farther south, Bell & Marks brought in the No. 1 Wineman, NW SW NW section 9, Billings Township, for an initial of 40 bbls. a day after it flowed 81 bbls. and stopped. It has since settled to 25 bbls. a day, but is still an important extension.

Southeast Buckeye

Two good-sized Dundee producers and a third test which filled up several hundred feet with Dundee oil, also aroused enthusiasm in this general direction, while the more active and more prolific northeast, or Wicklund, sector struck a comparative lull in number and size of completions last week, with the exception of the new record Ockerman.

Rex Oil & Gas Co. brought in the No. 2 Hall, NE NE NE section 35, Buckeye Township, as the largest of the two southeast, or Oard, section producers, making 950 bbls. a day, or 40 an hour, at 3,592 feet, or 96 feet below the limestone top penetrated at 3,488 feet. It is a west edge test.

F. D. Clark and C. Johnson brought in their No. 2 G. McMahon, NW NE SW section 36 for 640 bbls. a day naturally at 3,570 feet, 95 feet in the Dundee limestone. It is an east offset to the No. 1 McMahon, one of the first large producers completed in the southeast sector.

Three locations west of the Oard discovery well, C. L. Maguire, Inc., struck oil which filled up several hundred feet in the No. 2 R. C. Havens, SE SW SW section 25, at a total depth of 3,620 feet. It was scheduled for acid treatment and reopening over the weekend.

Northeast Buckeye

Rex Oil & Gas Co. also brought in the second largest well in the state, as well as in the Buckeye field, when the No. 2-A State, NW NE SE section 11, started off at 125 bbls. an hour, or at the rate of 3,000 bbls. a day, natural output.

The Garfield Petroleum Corp. No. 2 fee, NW SW NE section 14, an edge test on the southern side of the Wicklund pool, made an initial of 240 bbls. naturally and was increased to 750 bbls. a day after acidizing.

Michigan Producers & Refiners, Inc., also developed a flow of 450 bbls. daily in the No. 2 Frances, SE NW NW section 14, after treatment with 2,000 gallons of acid for pay sands drilled to 3,686 feet from the top of the Dundee hit at 3,551 feet, or 136 feet in.

Daily flow of the Sun Oil Co. No. 6 Salla, brought in the week before with an estimated output of 350 bbls., was increased to 650 bbls. a day at 3,629 feet, 90 feet in the lime.

Mammoth Producing & Refining Corp. also had two holes full of oil in the No. 2-B State, NW SE SE section 11, at 3,633 feet, and the No. 3-B State, SE SE SE same section, both expected to complete this week. Smith Petroleum Co. also was fishing for tools in the Dundee pay in the No. 2 Joseph Reed, SE SE NE section 11, at 3,547 feet, hoping to complete this week. Wicklund, Sun Oil, Mammoth and Smith Petroleum each had one or two other projects about ready to complete in the Dundee.

Sun Oil Co. was pumping the No. 2 Hines, NW SW NW section 31-17n-1w, Tobacco Township, for 35 bbls. a day from the Dundee.

Four Other Oil Wells

Four other Monroe and Dundee oil producers added about 900 bbls. to the crude initial of the week in four other fields.

Largest of the quartet was the Ross & Bernier No. 3 J. and K. Izworski, SE NE NE section 23-22n-1e, Ogemaw Township and County, which made 300 bbls. initial after acid treatment. Dundee was topped at 2,730 feet and the well completed at 2,851 feet after treating with 2,000 gallons of acid. Four other Ogemaw County tests in Churchill, Ogemaw and West Branch Township, two in the last, were near Dundee completion.

Midland County

Pure Oil Co. completed the No. 8-C Iva E. Bond, C N half SE NW section 12-13n-2w, Jasper Township, in the so-called Yost pool, for 230 bbls. a day after acid treatment at 2,438 feet, the larger of two new Midland County oil producers.

The M. L. Jorgensen No. 1 Cassidy, W half E half NW section 16-14n-2w, Greendale Township, was rated at 135 bbls. a day when completed with acid in the Dundee topped at 3,505 feet. It is an edge test on the southern side of the old Greendale Township section of the original Mount Pleasant field, where another small producer recently was completed.

Sherman—Isabella

McClanahan Oil Co. brought in a new Monroe formation well in the No. 1 J. W. Embrey, SW SE SE section 33-15n-6w, Sherman Township, Isabella County, when it made 225 bbls. a day naturally at 3,650 feet, 4 feet in the limestone topped at 3,646 feet. It was expected to be acidized immediately.

Pure Oil Co. also boosted the output of the No. 1 Latham Heirs, NE SE SE section 32, Sherman Township, from an estimated 100 bbls. initial to 350 bbls. daily after acid. Three other Sherman tests and one in the old Denver-Leaton area were nearing Dundee completion.

Gratiot County

An interesting but noncommercial show of oil was encountered by the Gulf Refining Co. in the No. 1 Lyon, SE SE SE section 26-9n-2w, Washington Township, Gratiot County. The show was struck in the Upper Traverse at 2,520 feet, after limestone was topped at 2,412 feet, but drilling was continued toward the Dundee.

Charles Anderson abandoned his No. 1 Ingvald Askegard, SE NE NE section 9-9n-1w, Elba Township, Gratiot County gas test, plugging at 520 feet.

Arenac Clayton

Gordon Oil Co. struck a heavy flow of Berea gas in a Clayton Township, Arenac County test, the No. 3 Crandall, NW NE SE section 10-20n-4e, from 1,103 feet

(Continued on Page 104)

Kansas Developments

By
DAL DALRYMPLE

WILDCATTERS MET WITH NO SUCCESS IN WEEK'S RESULTS

While Kansas experienced a busy week in the field and added 34 oil wells to its rapidly growing total, the week proved disastrous for wildcatters. Nineteen dry holes were abandoned in the state a large percentage of these having been outpost tests scattered through the central and western counties.

Rice County Completions

Eight new oil wells were brought in in Rice County with a combined potential production of 13,127 bbls. per day. Three dry holes were also recorded.

Skelly Oil Co. No. 3 Dittmers, SW SE SW section 28-19-10w, Siliceous lime at 3,305½-06½, total depth, acidized with 500 gallons, 1,399 bbls. in 24 hours.

Bell Oil & Gas Co. and others No. 1 Bayer, SE SE SE section 29-19-10w, Siliceous lime at 3,283-3,312 feet. hole full of water. Abandoned.

Republic Natural Gas Co. No. 5 Wendell, SW SE SE section 32-19-10w, Siliceous lime at 3,288-98 feet, total depth, 2,141 bbls. per day.

Gulf Oil Corp. No. 7 Knopp, SE NE NW section 33-19-10w, Siliceous lime 3,275-77 feet, total depth 3,287 feet, acidized with 2,000 gallons, 362 bbls. in six hours, potential 1,305 bbls. per day.

The Texas Co. No. 1 Hathaway, NW NE NW section 34-19-10w, Siliceous lime at 3,302 feet, total depth, 3,325 feet, plugged back to 3,306 feet, acidized with 1,000 gallons, show of oil and water, abandoned.

Gulf Oil Corp No. 1 Poncin, NW SW NE section 5-20-10w, Siliceous lime 3,307-20 feet, total depth 3,327 feet, acidized with 3,000 gallons, 1,409 bbls. of oil in 24 hours.

Gulf Oil Corp. No. 3 Schmidt, NW SW SE section 6-20-10w, Siliceous at 3,302-08 feet, total depth 3,310 feet, acidized with 2,000 gallons, 1,444 bbls. in 24 hours.

Mid-Continent Petroleum Corp. No. 6 Wood, NW NW NE section 4-20-10w, Siliceous at 3,315-30½, total depth, acidized with 1,000 gallons, 173 bbls. in 24 hours.

Grace Oil Co. No. 3 Gossman, SE NE NE section 8-21-7w, Conglomerate 3,358 feet, total depth 3,374 feet, potential 4,100 bbls. per day.

Aylward and others No. 15 Johnson, NW NE NE section 17-21-7w, Conglomerate at 3,361 feet, total depth 3,396 feet, 305 bbls. in six hours; potential 1,156 bbls. per day.

Shell Petroleum Corp. and others No. 1 Haxton B, dry and abandoned at 3,279 feet. This was a wildcat test with Siliceous lime topped at 3,271 feet.

New Work in Rice County

First reports of new operations in Rice County include Gillespie and others No. 1 Strang, NE NE NW section 9-18-8w, a wildcat, ponds dug; Bell Oil & Gas Co. and Shell Petroleum Corp. No. 1 Wilkens, NW NW NE section 23-21-9w, a wildcat, rotary rig up; Sage and others No. 7 Gassman, NW NW NW section 9-21-7w, cellar; Atlantic Refining Co. No. 1 Hopkins B., SE NE SW section 6-21-7w, rotary rig; J. H. Tatlock No. 6 Poncin, SW NE NE section 5-20-10w, location, and No. 5 Poncin, NW NE NE section 5-20-10w, rotary rig and No. 7 Drew, SE NW SW section 5-20-10w, rotary rig; Barnsdall Oil Co. No. 4 Hathaway, NE NW NE section 33-19-10w, rigging up rotary, and No. 3 Hathaway, SE NW NE section 33-19-10w, rigging up rotary.

Russell County

Eight new oil wells were brought in in Russell County and one failure abandoned. The list of completions includes:

Phillips Petroleum Co. No. 2 Eichman, NE NW SE section 34-15-13w, Siliceous lime at 3,296 feet, total depth 3,299 feet, swabbed 150 bbls. in five hours. potential 293 bbls. in 24 hours, with about 30 bbls. of water.

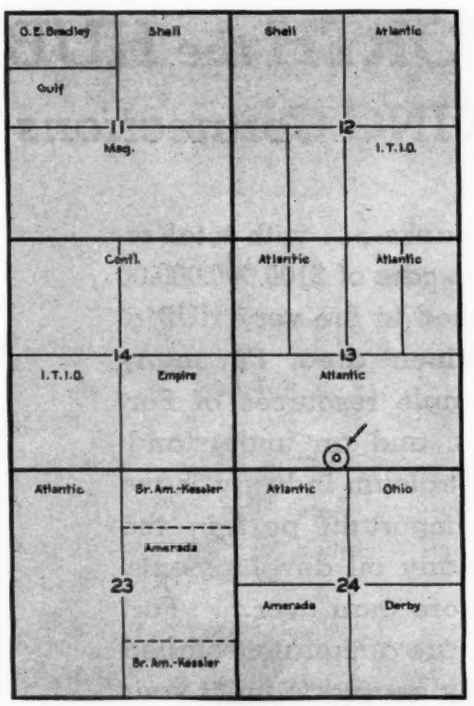
Gulf Oil Corp. No. 2 Hoffman, SE NE SW section 31-15-13w, Siliceous at 3,259-70 feet, total depth, acidized with 3,000 gallons, pumped 627 bbls. of oil in 12 hours, potential 1,254 bbls. per day.

Darby Petroleum Corp. and Reserve Development Co. No. 3 Michaelis, NE SW NW section 31-15-13w, Siliceous at 3,252-57 feet, total depth 3,263 feet, acidized with 4,000 gallons, pumped 191 bbls. in two hours, potential 2,206 bbls.

W. I. Southern, Inc., No. 2 Sellens heirs, SW SE NW section 30-15-13w, Siliceous at 3,290 feet, total depth 3,293½ feet, acidized with 4,000 gallons, pumped 1,080 bbls. in 12 hours; potential 1,260 bbls.

Darby Petroleum Corp. No. 3 Dumler B, Siliceous at 3,272 feet, sand at 3,277-82 feet, potential 1,091 bbls. per day.

Hartman & Blair No. 8 Rouback, SW SW NW section 2-14-15w, Gorham sand at 3,294-98 feet, total depth. Potential 2,700 bbls. of oil per day.



Mid-Continent Map Co., Wichita.

Simpson Oil Co. and others No. 1 Hewson, SE SW section 13-21-7w, is a new wildcat 3 miles northwest of Larned in Pawnee County, Kansas. It is an Atlantic farmout, and on a seismograph high Atlantic found when they shot the area

Empire Oil & Refining Co. No. 2 Strecker, SW NW NE section 35-14-14w, Gorham sand at 3,178-83 feet, total depth, potential production 1,505 bbls. in 24 hours.

Empire Oil & Refining Co. No. 2 Vaughn, SE SW SW section 17-14-14w, Kansas City lime at 3,010 feet, total depth 3,060 feet, acidized with 2,000 gallons, potential production 679 bbls. per day.

Equity Gas Co. No. 1 Harbaugh, a wildcat, NW NE SW section 19-13-12w, had a hole full of water in Kansas City lime at 3,092-98 feet and was abandoned.

New operations in the county include Texas Co. No. 2 Brandenburg, NE NW NW section 20-14-14w, cellar; W. I. Southern, Inc., No. 4 Sellens heirs B, SW SW NW section 30-15-13w, location, and No. 8 Boomhower A, NE SW NE section 30-15-13w, location; Coralena Oil Co. No. 3 Sellens, NE NE NW section 17-15-13w, building rotary rig; Skelly Oil Co. No. 1 Rein, Jr., SW NW SW section 8-15-13w, building rotary rig; Transwestern Oil Co. No. 7 William Polcyn, NE SW SW section 11-14-15w, building rotary rig.

Ellis County

Several good wells were completed in Ellis County. Ryan Consolidated Oil Co. No. 4 Bemis B, SW SE NW section 22-11-17w, had Siliceous lime at 3,411 feet, total depth 3,419 feet and produced 2,733 bbls. in 24 hours.

Deep Rock Oil Corp. No. 4 Baumer, NW NE NW section 27-11-17w, pumped and flowed 3,057 bbls. in 24 hours from Siliceous lime at 3,527-52 feet.

Noble Petroleum Corp. No. 1 O'Laughlin, 530 feet south and 72 feet east of C section 13-12-19w, a wildcat, had Siliceous lime at 3,900-43 feet and a hole full of water. It was abandoned.

British American Oil Co. No. 6 Bemis, SE NW SW section 22-11s-17w, had Siliceous lime at 3,419 feet, total depth 3,430 feet. It made a potential production of 2,943 bbls. in 24 hours.

Twin Drilling Co. No. 1 Craig, a wildcat, NE NE SE section 6-11-16w, was dry and abandoned in Siliceous lime at 3,580-3,610 feet.

Lario Oil & Gas Co. had cellar dug for No. 2 Cress, SE NE NE section 13-11-17w; Deep Rock Oil Co. No. 9 Bairmer, SE NW NW section 27-11-17w, is a location; Margay Oil Co. No. 1 Johnson, SW SW SE section 22-11-17w, rotary rig; Margay Oil Co. No. 7 Bemis C, SE NE SW section 22-11-17w, building rotary rig.

Estimated Daily Production

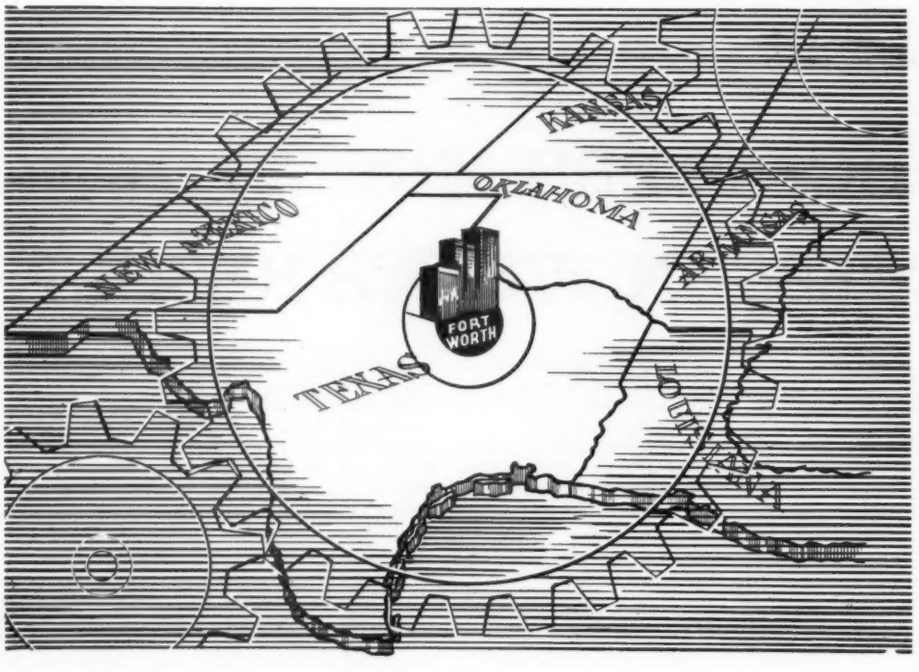
Estimated daily production of Kansas for the week ending June 5, and for the preceding week, was as follows:

	Barrels	
	June 5	May 29
Oxford City	1,600	1,625
Burrton	14,450	15,275
Ritz-Canton	5,250	5,200
Graber	2,575	3,075
Hollow-Nikkel	2,570	2,525
Lerado	2,875	2,900
Voshell	2,700	2,750
Wellington	2,850	2,975
Ellsworth County:		
Lorraine	4,600	4,975
Other pools	1,334	1,065
Rice-Barton counties:		
Bloomer	7,450	6,025
Chase	8,950	9,475
Geneseo	2,450	1,625
Raymond	1,650	1,700
Silica	20,425	22,125
Keesling	2,325	2,525
Hauschild	3,250	3,450
Miscellaneous Rice	9,450	10,060
Miscellaneous Barton	4,080	4,950
Russell County:		
Fairport	2,885	2,335
Gorham-East Gorham	2,780	3,150
Russell	2,430	2,395
Sullivan	8,207	8,375
Trapp	8,553	7,965
Miscellaneous Russell	6,470	7,305
Sedgwick County:		
Valley Center	1,164	1,130
Miscellaneous	3,117	3,185
Ellis County:		
Bemis	3,700	3,325
Miscellaneous	4,550	3,725
Kingman County	650	710
Stafford County	3,244	3,025
Greenwood County	9,675	9,700
Butler County	16,100	16,500
Other fields	25,566	22,550
Total Kansas	199,925	202,675

Barton County

Completions in Barton County included five new producing wells.

Continental Oil Co. No. 2 L. W. Ainsworth A, NE SE NE section 33-16-13w, Siliceous lime at 3,386 feet,



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*Combined statements of Fort Worth Banks as of March 31, 1937.

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★ The Fort Worth National Bank
★ Continental National Bank

total depth 3,392 feet, produced 383 bbls. in 14 hours and was given a potential of 742 bbls.

Empire Oil & Refining Co. No. 3 Demel, SW SE SW section 9-16-13w, Siliceous lime at 3,387 feet, total depth 3,392 feet, acidized with 1,000 gallons, 1,257 bbls. of oil in 24 hours.

Spencer & Yarnell No. 3-K Patzner A, NW NE SE section 36-17-11w, deepened from 3,030 feet and acidized with 5,000 gallons several weeks ago, was given a potential of 6,488 bbls. and completed last week.

C. B. Davis and Gulf Oil Corp. No. 9 Steckel, SE SW SE section 1-20-11w, Siliceous lime at 3,261 feet, total depth 3,272 feet, pumped 289 bbls. in six hours, potential 1,401 bbls. per day.

Indian Territory Illuminating Oil Co. No. 1 Bryant, 300 feet from south and 440 feet from west lines of NW quarter section 25-20-11w, Siliceous at 3,277 feet, total depth 3,306 feet, acidized with 2,500 gallons, pumped 708 bbls. in 13 hours, potential 1,417 bbls. per day.

New work in Barton County included The Texas Co. No. 7 Moran, SW NE SW section 25-17-11w, 10-inch casing set at 295 feet, drilling at 2,960 feet; Indian Territory Illuminating Oil Co. No. 1 Schrepel, 330 feet from north and 440 feet from west lines of SW quarter section 25-20-11w, cellar; The Texas Co. No. 2 McLean, SW SE NE section 25-17-11w, 10-inch casing set at 212 feet, drilling at 865 feet; Empire Oil & Refining Co. No. 4 Demel, SE SW SW section 9-16-13w, building rotary rig; The Texas Co. No. 1 Hoffman, NW NW NW section 6-16-13w, rotary rig up.

Reno County

In Reno County, Shell Petroleum Corp. No. 6 M. Whipple, 440 feet south and 1,321 feet west of NE cor. section 15-26-9w, had Viola lime at 4,126 feet, total depth 4,133 feet. It was acidized with 2,000 gallons and flowed 1,507 bbls. of oil in six hours, giving it a potential of 5,711 bbls.

Davis and others No. 1 Van Sickle, NW cor. section 21-24-4w, was dry and abandoned in Chat at 3,337 feet.

Haynes Drilling Co. and others No. 3 Mueller, C N half N half NW section 30-24-4w, made 476 bbls. of oil and about 75 bbls. of water in 24 hours from Chat at 3,336 feet, total depth 3,396 feet.

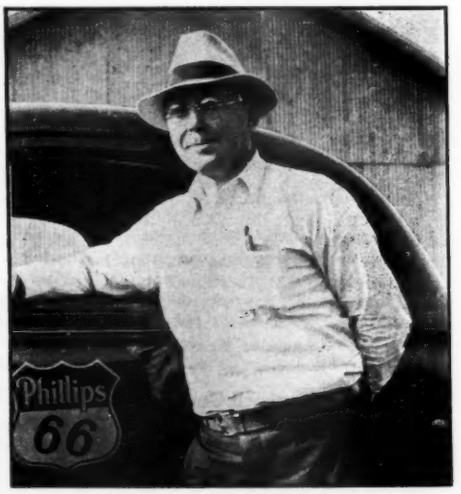
National Petroleum Corp. has cellar dug for No. 6 Tucker, NW NE NW section 19-24-4w; Empire Oil & Refining Co. No. 6 Scheuchzer, 1,713 feet south and 996 feet east of NW cor. section 20-24-4w, moving in material; Haynes Drilling Co. and others No. 5 Mueller, SE NE NW section 30-24-4w, rotary rig up.

Butler County

In Butler County, Cox & McGinnis No. 2 Huston, SE SW NE section 1-25-3, pumped 221 bbls. in 24 hours, after a 2,000-gallon acid treatment at 2,556-2,683 feet, and was completed.

Sheldon & Wixson and others No. 2 Dohran, NW SW NE section 11-25-3, made a 350-bbl. well after a 3,000-gallon acid treatment in Mississippi lime at 2,685-99 feet.

Sheldon & Wixson and others made a location for No. 1 O. E. Moore, NE NW SE section 11-25-3. Phillips Petroleum Co. made a location for No. 17 Scully, 1,720



C. E. Cure, district production foreman for Phillips Petroleum Co., portrayed at McPherson, Kans.

feet from north and 400 feet from west lines of NE quarter section 17-23-4.

Sedgwick County

Cameron and others wildcat test in Sedgwick County, No. 1 Smith, SW SE SE section 13-27-2e, was dry and abandoned at 3,272 feet, Siliceous lime was topped at 3,230 feet. The hole was plugged back and tested without results in Kansas City lime at 2,371-88 feet.

Magnolia Petroleum Co. was building rotary rig for No. 4 Helen Vickers, SW SW NW section 20-27-2e.

Sumner County

Stelbar No. 6 Barlow B, SW SW SE section 33-31-1w, Sumner County, had Chat at 3,649-3,700 feet. It was treated with 3,000 gallons of acid and flowed 915 bbls. of oil in 24 hours.

Amerada Petroleum Corp. was rigging up rotary for No. 2 Nelson, SE SE NW section 5-32-1w, Sinclair Prairie Oil Co. made a location for No. 3 Herrick SE NW SE section 15-35-2e.

McPherson County

Kansas City Production Co. No. 1-A Severtson Estate, C E half NE SE section 9-19-2w, McPherson County, was abandoned, a hole full of water at 2,981 feet.

W. C. McBride, Inc., was rigged up on No. 3 Neufeldt, SE NE NW section 28-21-3w; Continental Oil Co. No. 6 Blair, NW NW SW section 21-21-1w, set 10-inch casing at 134 feet, and was drilling at 879 feet, and No. 7 Blair SW SW NW section 21-21-1w, was a location. E. J. Shaffer and Washoma Oil Co. was moving in material for No. 1 Zook, SW SW SW section 36-22-2w. Continental Oil Co. was building rotary rig for No. 7 Hetzka, C E half W half NE section 29-21-1w.

Martin Bradley is superintendent of production for Magnolia Petroleum Co. in the Chase district, Kansas. He was "snapped" at the district office in Barton County

Rush County

Earl Wakefield and others made a location for No. 1 Zimmerman, SE SE SW section 7-16-18w, Rush County.

Greenwood and Woodson Counties

In Greenwood County, Oko Oil Co., 800 feet from south and 200 feet from east lines of SW quarter section 22-23-13, had sand at 1,555-1,610 feet, shot it with 200 quarts and has a 100-bbl. pumper.

B. & B. Oil Co. No. 1 Webb, a wildcat, C NE SE section 3-26-13, was abandoned after sand at 1,440-55 feet showed only water.

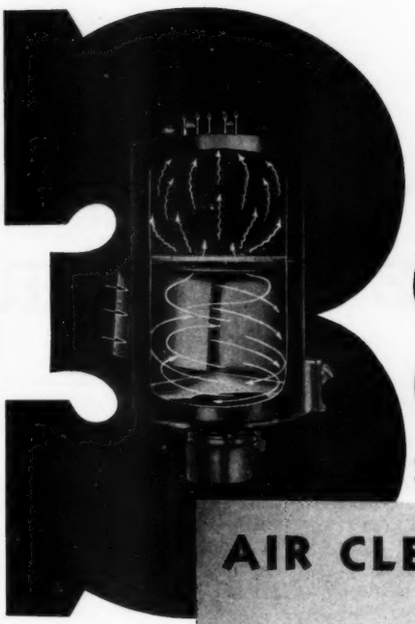
Polhamus & Markus No. 1-A Davis, 300 feet from north and 400 feet from east lines of SE quarter section 6-24-12, found water in Mississippi lime at 1,791-1,824 feet and abandoned the hole.

C. C. Whitticker No. 1 Miller, NE NW SE section 8-28-11, is a 25-bbl. well at 1,176-1,227 feet.

In Woodson County, Higgins and others No. 1 Harding, C S half SE SW section 29-23-15, was a hole full of water at 1,668 feet, and was abandoned.

In Greenwood County, Lindberg and others No. 20

(Continued on Page 104)



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VORTOX OIL TYPE SELF-WASHING AIR CLEANER

North Louisiana, Arkansas

By MITCHELL TUCKER

FIVE NEW OPERATIONS START IN THE SCHULER, ARK., FIELD

SHREVEPORT, La., June 7.—Five new locations were staked last week in the Schuler field of Union County, Arkansas, following completion test of the second producer in that field, Marine Oil Co. No. 1 Justiss, section 18-18-17, flowing 1,455 bbls. in 24 hours, with 2,000,000 feet of gas, total depth 5,660 feet, plugged back to 5,620 feet. The two offset drilling wells are now in the same sand, and each flowed on drill stem test prior to completion.

Rodessa

The deepest well in either East Texas, Arkansas, or Northern Louisiana is now in the gas producing area of the Rodessa field, R. W. Norton No. 1 Payne, SE SE section 27-23-16, coring at 10,043 feet. Proposed depth was only 10,000 feet. The operators have not announced how much deeper they plan to continue. It is rumored, however, that indications are sufficiently favorable to warrant carrying the hole to possibly 12,000 feet. This well is indicative of what may be expected in deep hard drilling throughout the territory. It was spudded in October, 1936, and has been drilling and coring continuously.

The gas-distillate discovery well in the Pettit lime zone, United Gas Public Service Co. No. 1 J. W. Land, R. Potter Survey, was acidized with 3,000 gallons to increase flow. The well is now awaiting chemical reaction.

Rodessa's only new completion, Ohio Oil Co. No. 13 R. P. Willis, S.F.I.W. Survey No. 1263, flowed 260 bbls. in 24 hours through quarter-inch tubing choke, total depth 5,955 feet.

In the Texas Railroad Commission allowable for June, the Cass County, Texas, portion of the field is granted a total of 35,038 bbls. daily, with top gas allowable of 76,864,000 feet. Total acreage considered productive was placed at 5,026.28 acres, with total bottom-hole pressure of 548,323 pounds, or an average of 1,996 pounds per well. The 50 per cent acreage factor is computed on a basis of 3.84766 bbls. per acre, and the 50 per cent bottom-hole pressure factor is computed on the basis of .03592 bbls. per pound of pressure.

Arkansas-Louisiana Gas Co. No. 1 C. C. Braden, T. Hanson Survey, about 2 miles east of Jefferson in the Marion County, Texas, extension area southwest from Rodessa, was the center of attention while testing last week. Hill sand was topped at 5,817 feet, Henderson sand at 5,890 feet and Gloyd sand was drilled from 5,903 feet to 5,966 feet. Drill stem test from 5,895 feet to 5,938 feet indicated 8,000,000 feet of gas; from 5,943-83 feet 5,000,000 feet of gas was indicated. Drilling continues at 6,050 feet.

Claiborne Parish—Sugar Creek

Sugar Creek Syndicate No. 1 Carter Unit, section 32-20-5, old gas producer being deepened on the northern flank of the field to the newly discovered oil producing sand, set 5-inch casing at 5,223 feet. A total of 14 feet of well saturated oil sand has been cored, pointing to the best producer in the field. Estimates of probable potential range up to 500 bbls. per day. Such a completion would greatly stimulate flank drilling in the old Sugar Creek gas field. Drilling continues here at 5,748 feet.

Caddo Parish

F. L. Luckett No. 1 Connell, SW NE section 10-20-15, in the Caddo field, was completed pumping 5 bbls. daily, total depth 2,252 feet.

H. E. Phillips No. 1 Fuller, NE section 26-22-15, pumped 10 bbls. daily, total depth 1,034 feet.

W. L. Porter No. 1 Terbune, section 15-21-16, was dry at 1,022 feet, and abandoned.

Shreveport Oil Corp. No. 2-D Munslow, SE section 5-20-15, flowed 10 bbls. daily on initial test, total depth 2,190 feet.

Stewart-Williams No. 1 Iron, SW NE section 10-20-15, was abandoned as dry, total depth 2,197 feet.

Stanolind Oil & Gas No. 1 Wheritt, SE SW section 23-21-15, pumped 45 bbls. daily after acidizing, total depth 1,640 feet.

D.K.O. Oil Corp. No. 1 Player, SE NW SE section 26-21-15, pumped 21 bbls. oil and 60 bbls. salt water from total depth of 1,600 feet on initial test.

J. J. Thompson No. 1 Gamm, NE SW NW section 35-21-15, has been junked and abandoned at total depth of 2,265 feet.

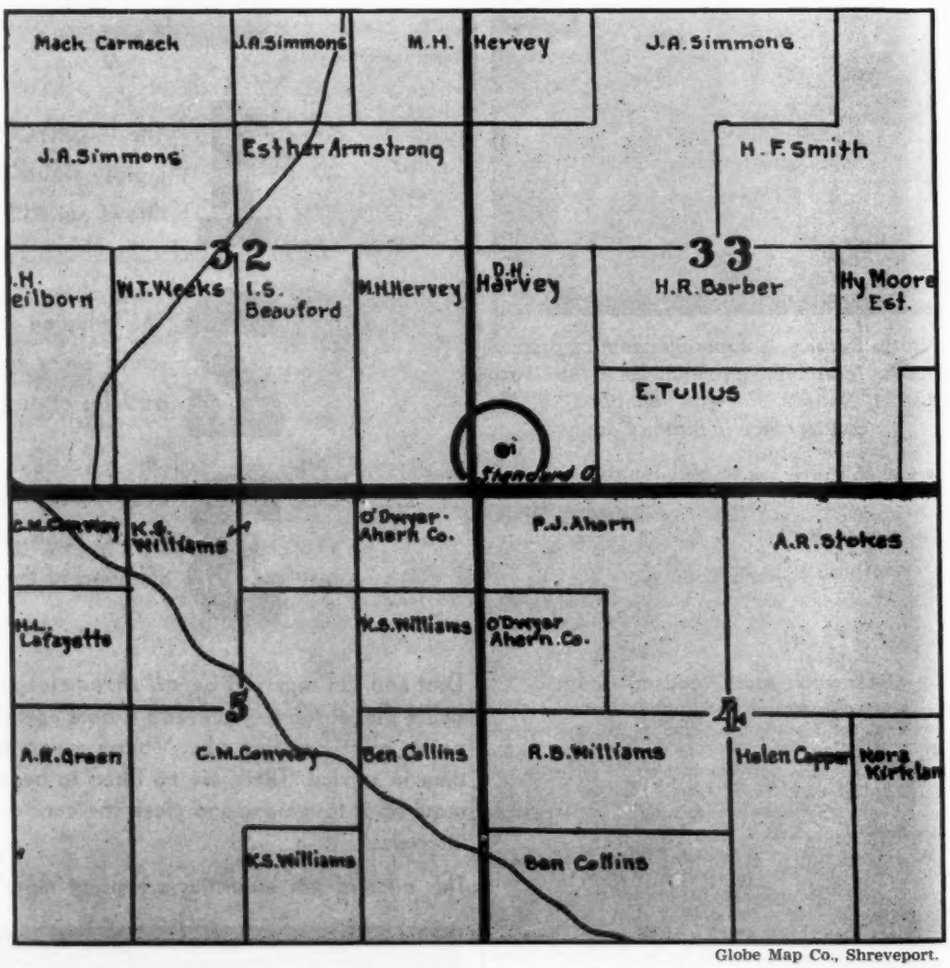
Bienville Parish

After topping the Travis Peak at 7,110 feet, Lide, Greer and Marr's Union Church test, No. 1 W. J. Smelley, SE NW SW section 18-16-5, made drill stem test from 7,100 to 7,144 feet and gauged 40,000,000 feet of saturated gas through half-inch top and bottom choke. This second well in the Union Church field is checking 25 feet higher than the No. 1 Smelley, section 13-16-5. Another test on the southwest flank of this structure is planned soon in search of oil.

Deep Rock Oil Co., H. L. Hunt, Sinclair-Prairie, and others are reported to be preparing to jointly take over the J. W. Leonard No. 1 Courtney heirs, SE section 5-17-7w, which was abandoned at a total depth of 7,324 feet last October, and rework the well and possibly drill deeper in search of production. Several gas and live oil shows were logged in the original drilling of this well, but no drill stem tests were made. Seven-inch casing was set at 7,274 feet and casing perforated opposite points of indicated saturation. The new operators plan to acidize and thoroughly test all showings.

Claiborne Parish—Lisbon Field

The Lisbon field reached an all time peak of 7,175 bbls. daily average production last week, following the completion of three new wells, having an aggregate initial production of 2,160 bbls. Six new locations were made, bringing total drilling wells to 20 and rigging up locations to six. Total producers in the field now number 27.



Globe Map Co., Shreveport.

Location of Standard Oil Co. of Louisiana No. 1 Sarah Harvey, SW section 33-16-26, Miller County, Arkansas, proposed 9,000-foot Paleozoic test of their geophysically mapped structure at Fauke, about 12 miles southwest of Texarkana. This will be the deepest exploratory well ever drilled in Arkansas

P. W. Woodruff No. 1 T. E. Patton S half SE NE section 36-21-5, flowed 49 bbls. hourly on initial test from saturated Pettit lime 5,285 feet to 5,302 feet, through 32/64-inch tubing choke, tubing pressure 295 pounds, total depth 5,303 feet.

L. O. McMillan No. 2-A H. E. Patton, N half NE SW section 31-21-4, flowed 23 bbls. hourly through 22/64-inch tubing choke, tubing pressure 375 pounds, casing pressure 300 pounds, 3,000 gallons of acid, total depth 5,315 feet.

Magnolia Petroleum Co. No. 1 H. E. Patton, NW SE SW section 36-21-5, flowed 18 bbls. hourly through quarter-inch tubing choke, total depth 5,336 feet. This well was not acidized.

Estimated Daily Production

Estimated daily gross production all companies week ending June 5:

NORTH LOUISIANA

Bellevue	790
Caddo light	3,970
Caddo heavy	2,425
Converse	780
Cotton Valley heavy	295
Cotton Valley light	*1,625
De Soto and Red River	1,545
Elm Grove	380
Haynesville	3,350
Holly	130
Homer	2,530
Lisbon	7,185
Pleasant Hill	135
Rodessa	49,535
Sarepta-Carterville	405
Sligo	320
Urania	2,840
Zwolle	760
Total	79,000

SOUTH ARKANSAS

Champagnolle	1,530
El Dorado	2,020
Lisbon	290
Miller County	530
Nevada	785
Schuler	1,225
Smackover light	2,170
Smackover heavy	17,000
Stephens	580
Troy	675
Urbana	1,290
Total	28,095

Texas side of Rodessa field—44,245 bbls. daily.
*1,135 bbls. is distillate.

DeSoto Parish

Chamberlin and others No. 1 Lanier, SW NE section 29-11-11, failed to encounter expected saturation in the Woodbine sand, and has been abandoned at a total depth of 3,020 feet.

Rio Rajo Oil Co. No. 1 Prudehomme, SE section 20-12-11, routine completion in the Bull Bayou field, pumped 50 bbls. of oil and 150 bbls. of water from total depth of 2,749 feet.

Lincoln Parish

H. D. Easton and Belmont No. 1 G. W. Dye, NE NE section 21-19n-4w, important wildcat test of the North Simsboro structure northwest of Ruston, set 13-inch at 783 feet and at a total depth of 2,150 feet is running Schlumberger preparatory to setting 9⅝-inch protective casing.

Morehouse Parish

Henry E. Rondeau and others are renewing leases and preparing to resume drilling at their No. 1 E. M. Clark, section 10-20-7, deep test on eastern edge of the Monroe gas field, which was shut down several months ago at 3,755 feet. This test logged the top of Travis Peak at 2,874 feet, making it one of the highest wells geologically in the area. It is now planned to carry the well to 6,000 feet.

Webster Parish

Standard Oil Co. of Louisiana's important southern flank test of the Cotton Valley field, No. 1 Stewart, SE section 32-21-10, topped the Travis Peak at 6,006 feet and failed to log oil saturation in the stray Holloway sand productive in the Upper Travis Peak in two wells near peak of the Cotton Valley structure. The 9-inch casing has been set at 6,051 feet preparatory to deepening to the Lower Travis Peak or to the scheduled depth of 9,000 feet. At this point on the structure all Cretaceous beds have been thickening and the well is checking considerably lower than the gas-distillate producers about 1 mile to the north.

Woodley Petroleum Co. was completing the eighth deep producer in the Cotton Valley field as the week closed, No. 4-B Gray, NE NE section 27-21-10. After setting 7-inch casing at 8,444 feet, casing was perforated from 8,095 feet to 8,114 feet, opposite saturation in the Bodcaw sand, and on initial test the well gauged at the rate of 800 bbls. of distillate per day.

ARKANSAS

Miller County

Arkansas' hope for production in the Rodessa field, McClanahan and others No. 1 W. L. Capps, NW SE SW section 11-20-28, about 2 miles north of production, topped the anhydrite at 5,270 feet and is now coring for the pay zone. This well is checking slightly lower than Rodessa producers.

E. H. Moore No. 1 Dale, center of section 24-15-26, deep test in the Texarkana area, topped the Travis Peak at 4,654 feet and set 8-inch protective casing at 5,655 feet, preparatory to drilling deeper.

Standard Oil Co. of Louisiana is rigging up for the drilling of Arkansas' deepest test in their extensive block near Fauke, to be known as No. 1 Sarah Harvey, section 33-16-26, upon a seismic mapped structure. Proposed total depth is 9,000 feet.

Union County

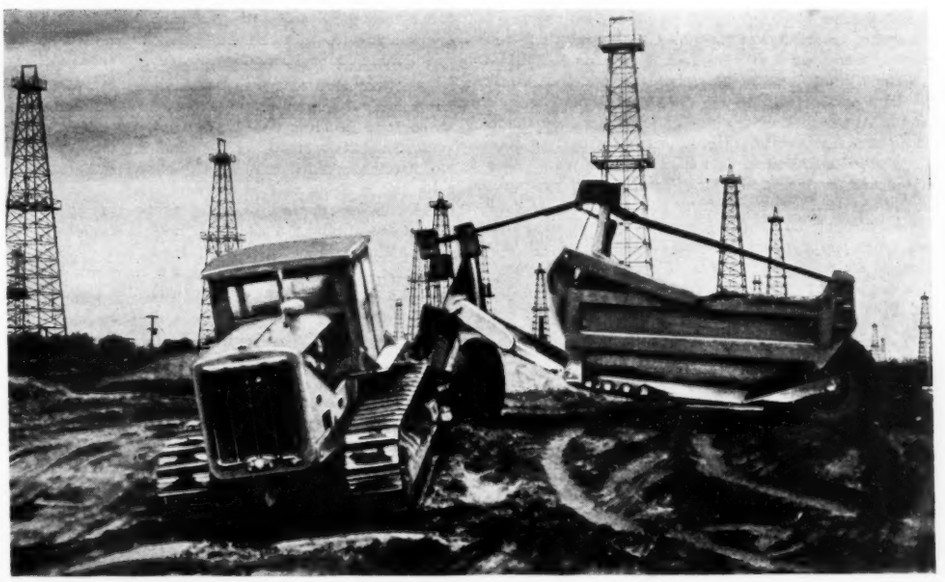
Full 24-hour test of the second producer in the promising Schuler field gauged 1,455 bbls. through 1½-inch tubing choke, casing pressure 500 pounds, tubing pressure 1,000 pounds, total depth 5,620 feet, plugged back from 5,660 feet.

The two offsetting wells have both reached the Lower Morgan sand, and flowed on drill stem tests, indicating their high productivity. They are both coring for exploration of saturated sections below present level.

Five additional locations were announced for Schuler last week. Phillips Petroleum Co. is also expected to begin development of its large holdings soon. As yet the Arkansas Board of Conservation has not invoked any proration upon the production. Root Petroleum Co. is laying a line into the field from their El Dorado, Ark., refinery.

Laboratory analysis of Schuler crude indicated a

(Continued on Page 104)



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East and East Central Texas

By
L. E. BREDBERG

DEEPEST TEST IN EAST TEXAS DISTRICT PROVES A FAILURE

DALLAS, Tex., June 7.—The deepest test drilled in the East Texas district failed to make a producer from the Woodbine sand, the regular pay in the Long Lake field in the southwestern part of Anderson County. Tide Water Associated and Seaboard Oil Corp. carried No. 7 Monnig Brothers, in the S. Sanchez Survey, to 9,971 feet (steel line measurement) plugging it back to the Woodbine before giving it up. It topped the Travis Peak (Lower Trinity) at 9,930 feet, the Lower Glen Rose having been topped at 8,748 feet. Elevation is 233 feet.

The Trinity test of Roeser-Pendleton, Inc. in the western part of the Cayuga field, in the northwestern part of Anderson County, appears to have a good chance of making a gas-distillate producer, like the two other Trinity wells drilled in this field by Tide Water Associated and Seaboard, the first Trinity sand producers in the district. It is now coring below 7,565 feet, showing an estimated 1,500,000 feet of wet gas on drill stem test when the stem was opened seven minutes. It also showed 85 pounds pressure. It is on the company's Bowyer lease, E. Ritter Survey. Elevation is 317 feet. It topped the Woodbine at 3,991 feet, Georgetown lime at 4,749 feet, Paluxy series at 5,929 feet and Glen Rose at 6,166 feet.

Barnsdall Oil Co. No. 1 H. C. Swanson, in the Richard Duty Survey, three-quarters of a mile northeast of Jarvis, which has an elevation of 330 feet, topped the Woodbine at 4,406 feet and tested 3,000 feet of salt water in five minutes on drill stem test at 4,640-60 feet. The Georgetown lime was reported logged near the 5,000-foot level and the test shut down waiting orders. It may be carried down in quest of Trinity production, as several major companies hold considerable acreage in the area and may contribute to drill deeper, if only for geological information.

Another deep test which does not appear encouraging is Stanolind Oil & Gas Co. No. 1 Hawks, in the Robert Ragsdale Survey, 1½ miles west of Campbell in northeastern Hunt County. It is at 6,050 feet, having topped the Glen Rose at 4,819 feet and anhydrite at 5,335-5,560 feet. Elevation is 566 feet. This important Mexia-Talco fault line test is on a faulted structure considered as having the best possibilities for producing, but it may prove to be like Superior Oil Co.'s test near Quinlan to the southwest and along the same fault and in the same county, abandoned several months ago.

Another deep test may be Magnolia Petroleum Co. No. 2 J. A. Chapman, on the extreme eastern end of the Talco field in Titus County, and an east offset to the same company's small well on this edge of the field. No. 2 test proved a failure in the regular Paluxy pay zone and is being carried down in quest of production in the Lower Paluxy, possibly to be carried to the Glen Rose although a deep dry hole is located on the Sam Williams lands in the M.E.P.&P. Survey, about a mile east. It was abandoned at a total depth of 6,219 feet, the first drilled in search of Glen Rose production in the area.

Another Deep One for Rusk

General Crude Oil Co. has joined the search for deep production in Rusk County, looking for an extension or trend production on the Rodessa-Harrison County trend. Location is on the F. H. and J. K. Bivins Estate, R. Williams Survey, 6 miles north of Tatum in the northeastern corner of the county. The block extends into Gregg and Harrison counties.

Abandonment

Stoco Oil Co. and Joe Burnham have abandoned their Cherokee County wildcat at 5,213 feet. Elevation is 417 feet. It is on the E. B. Parks lands in the J. T. Cook Survey, about 4 miles southwest of the town of Rusk and about 1½ miles north and a little west of the small Rusk pool. Several dry holes were drilled in this area in quest of the pay in the Rusk pool wells.

Another abandonment was a Woodbine sand test drilled by A. W. Phillips and others on the E. M. Speight farm in the M. Herrin Survey, 6½ miles southeast of Mexia in Limestone County. It was deemed a failure at 3,695 feet. Elevation is 402 feet.

Mrs. S. O. Thompson and H. H. Jaffie have abandoned their Trinity test on the C. W. Rosemond farm, Jefferson Milam Survey, 3 miles southwest of Red Water in Bowie County. Total depth is 6,016 feet. It topped the Paluxy at 4,000 feet, and lower Glen Rose at 6,008 feet. Elevation is 285 feet.

F. W. Maddox has staked location north of the northernmost part of the East Texas field in Upshur County, and about 4 miles east of Gilmer. It is on the S. T. Buie lands in the J. M. Dunn Survey. This week a test in this area, Albert Baggett No. 1 Ruth Estate, in the Eubanks Survey, about 1½ miles west of production in the big field, and 2 miles north, logged 3 feet of Woodbine sand from 3,723-26 feet and shut down to tear down rotary tools and standardize, drill out the plug and make a test.

Sulphur Bluff

The Sulphur Bluff field has been given over a quarter of a mile northeastern extension by F. D. Jones and others No. 1 Gulf-Basham, completed in the Paluxy at 4,541 feet, topping it at 4,493 feet. It made 20 bbls. per hour through open 2½-inch tubing. A test on the west end that will define or extend production another quarter of a mile is that of Texas Co. on the Davis farm. It logged the broken pay at 4,498 feet, showing saturation from 4,525-37 feet and drilling to 4,547 feet to shut down and run and cement casing preparatory to making a production test. Its location makes it important.

Outpost Possibility

Sun Oil Co. No. 1 Royall R. Watkins, about 1½ miles north of production in the Cayuga field, Henderson County, is showing for a possible producer and extension well since it showed nearly 400 feet of oil on a 10-minute drill-stem test made at 4,118-20 feet. Pipe has been set preparatory to making a production test. It may open considerable producing territory to the Henderson portion.

East Texas Field

Forty-seven locations were staked in the East Texas field during the week, and 58 tests completed. Drilling activities are higher than anticipated early in the year. Offset tests have compelled others to be drilled and drilling will probably continue at the present rate for several months.

EAST TEXAS COMPLETIONS

Angelina County

Ed Holman and others No. 1 J. E. Hawkins, 1,680 feet, 12 bbls. per day with lots of water.

Bowie County

Thompson and Jiffie No. 1 Rosalind, dry and abandoned 6,016 feet, top Paluxy 4,000 feet.

Anderson County

Tide Water and others No. 3 Rampy, 4,058-72 feet, 119 bbls. in 24 hours through one-eighth inch choke; No. 3 Samuel, 5,301-43 feet, 60,000,000 feet of gas; No. 1 Mrs. P. Smith, 5,337-46 feet, 20 bbls. per day; No. 2 Wil-

(Continued on Page 92)

Scouts eating lunch, but with eyes glued on an East Texas wildcat, watching it do its stuff. They are: W. A. McKenna, Gulf Oil Corp., Palestine; S. C. McKinney, Shell Petroleum Corp., Palestine, and L. C. Stedman, Pure Oil Co.; J. S. (Shorty) Fox, Arkansas Fuel Oil Co.; P. A. (Pete) Barenkamp, Sun Oil Co.; Earl Perry, Sinclair Prairie Oil Co., all of Tyler

California Field Report

By L. P. STOCKMAN

WILMINGTON OPERATORS MAY MAKE CURTAILMENT PROGRAM

LOS ANGELES, Calif., June 7.—With current production approximating 50,000 bbls. per day and a potential daily production of 100,000 bbls. in sight in the Wilmington field of Los Angeles Basin Umpire Pemberton and the Central Committee of California Oil Producers invited operators in the Wilmington field to attend a meeting to discuss curtailment problems and attempt to work out some form of equitable curtailment.

Major crude oil purchasers are reluctant to provide pipe line facilities for a field that is producing practically wide open, especially in the case of Wilmington, where the crude oil contains a minimum amount of the lighter fractions and a relatively high sulfur content. A number of operators who have been selling crude oil from 36 cents to 50 cents per barrel are convinced that with stabilized prices and an outlet for current production effective curtailment is highly desirable. The average drilling cost in the Wilmington field approximates $45,000 per well and at present prices a well must produce more than 100,000 bbls. of crude oil to pay out. Drilling costs vary throughout the field, depending upon the terrain and amount of road to be built and the number of piles to be sunk to provide a stable base for the derrick and drilling equipment.

Field Extension

The Long Beach city council will call a special election June 15 on the proposal to lift drilling restrictions in the west side of Long Beach to permit development of the Wilmington field, which extends across the boundary line into Long Beach. The council will submit two plans, one for the drilling of one well per acre under an initiative ordinance presented by petition. The other permits the drilling of only one well to every five acres under an ordinance proposed by the city council. The section of the city of Long Beach affected by the proposed lifting of restrictions is located immediately adjacent to acreage being developed by General Petroleum Corp. and Union Pacific Railroad. In as much as several excellent producing wells have been completed close to the Long Beach boundary line, it is assumed that a substantial part of the acreage subject to the proposed drilling plan will prove highly productive. The lifting of drilling restrictions in the west side of Long Beach will greatly enhance the ability of the Wilmington field to substantially exceed a potential daily production of 100,000 bbls. Wells in this field only produce a minimum amount of natural gas, but with from 400 to 500 feet of producing formation the wells should be relatively long lived and show higher than the average settled production when the pumping stage is reached.

New Wells

General Petroleum Corp., discoverer of the Wilmington field, completed No. 8 Ford, flowing 1,950 bbls. of clean 25.2 gravity oil per day from 3,761 feet. This well has 521 feet of perforated opposite the productive oil zone. Several recent completions have shown a substantially higher gravity than the average for the field, particularly Nos. 7 and 8 on the Ford lease of General Petroleum Corp. and No. 11 of the Union Pacific Railroad. General Petroleum Corp. No. 3 Terminal, has been completed, flowing 794 bbls. of 18.9 gravity oil daily from 3,450 feet. It has 469 feet of perforated pipe. Union Pacific Railroad Co. No. 14 only showed small production upon completion but may build up. No. 14 was brought in doing 130 bbls. of 16.2 gravity oil per day from 3,651 feet after the hole had been plugged back from 3,934 feet. Packard Oil Co. No. 20-8-1 was completed, flowing 461 bbls. of 16.7 gravity oil daily from 3,565 feet and No. 3-W was brought in flowing 548 bbls. of 17.1 gravity oil per day from 3,615 feet. The former, which was carried down to 3,596 feet and subsequently plugged back to its completion depth, has perforations in the 7-inch at 2,812-95 feet, 2,938-3,021 feet, 3,063-3,147 feet and at 3,186-3,565 feet and was cemented through perforations at 2,810 feet.

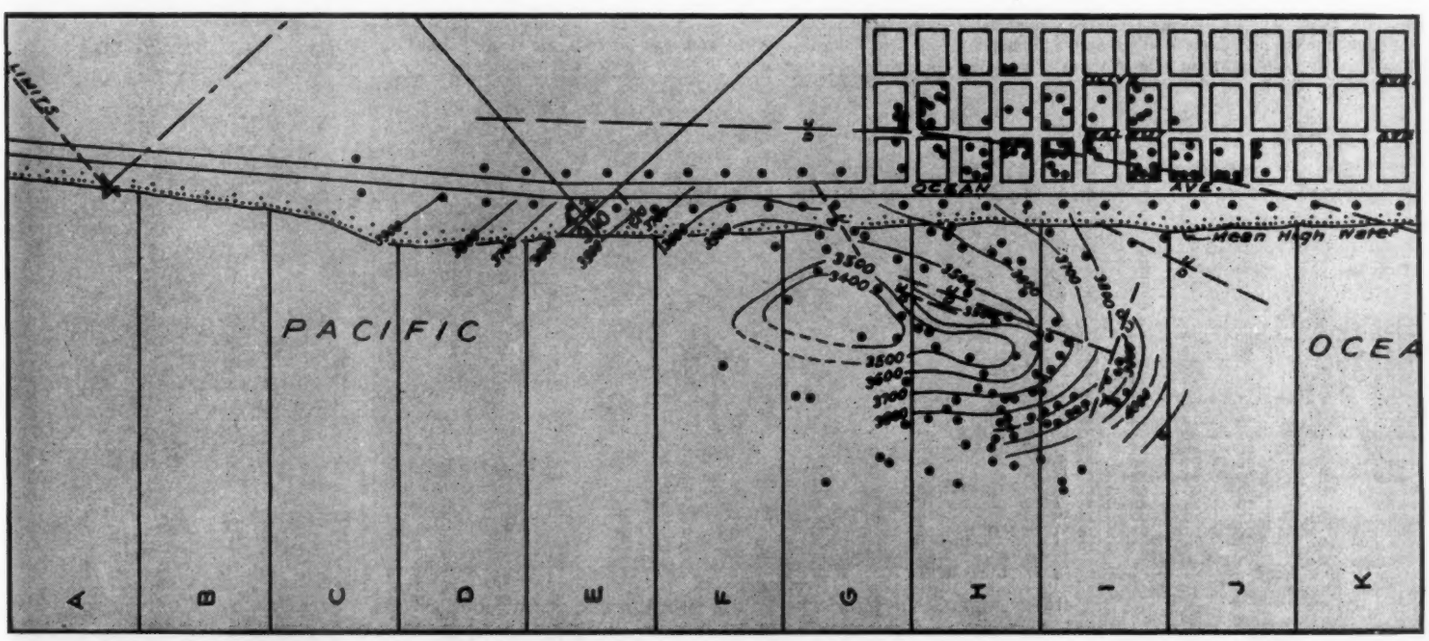
G. V. Leal completed No. 1 pumping 198 bbls. of 15.7 gravity oil daily from 3,492 feet and is driving piles for No. 2 at the corner of Banning and D Street. Pacific Western Oil Co. completed No. 1 Wilmington Community flowing 390 bbls. of 15.7 gravity oil daily from the upper zone at 3,000 feet. Olympic Refining Co. completed No. 3 fee, pumping 163 bbls. of 15.6 gravity oil daily from 3,525 feet. This new well was finished with an 8⅝-inch water string landed at 3,291 feet and 249 feet of 6⅝-inch liner including 209 feet of perforated. Bankline Oil Co. No. 7-2 Watson was complete doing 221 bbls. of 15.5 gravity oil daily from 3,508 feet.

Midway-Sunset

In the Midway-Sunset field of Kern County Standard Oil Co. completed No. 126-33-D in section 33-32-24 pumping 848 bbls. of 22.5 gravity oil and 27 bbls. of water per day from 3,097 feet. It was finished with 225 feet of 6⅝-inch liner including 46 feet of 60-mesh screen. The company is building rigs for Nos. 3-13-D and 7-13-D in section 13-32-24 and No. 37-23-D in section 23-32-24, and has two strings of tools in operation in section 33-32-24 and has rigs up for wells Nos. 50, 51, 68, 78 and 93. On adjoining property, in section 32-32-24, the Texas Co. recently completed Nos. 20 and 21 as large wells and is preparing No. 22 for an early production test and is building rig for No. 23. In contrast with the large completion recorded by Standard Oil Co., No. 35 Combine of the Western Mesa Oil Co. in section 14-31-22 was good for only 15 bbls. of 19.8 gravity oil daily on the beam following completion at 1,724 feet.

Kern River

Out on the west front of the Kern River field, Republic Petroleum Co. has completed its initial well on a lease secured some time ago from the California Institute of Technology in section 24-28-27. This new producer was No. 1 Cal Tech, which was bottomed at 1,936 feet and brought in pumping 264 bbls. of clean 14.5 gravity oil daily. The crew was transferred to No. 2 Cal Tech. Apex Petroleum Corp. No. 2 in section 10-28-27 has been completed pumping 154 bbls. of clean 14.1



Under California Senate Bill 579 the submerged tidelands off Huntington Beach would be subdivided into 11 parcels as indicated and offered separately to the highest bidder subject to a sliding scale of royalty. Black dots shown in Pacific Ocean on map indicate bottom of wells drilled from surface locations in the Town Lot area. The parcels extend into the ocean farther than indicated on the map

gravity oil daily from 2,193 feet. In the Premier section of Kern County, Hobbee Oil Co. No. 1 McVan, in section 14-27-27, has been completed pumping 25 bls. of 14.6 gravity oil daily from 1,216 feet after the hole had been plugged back from 1,304 feet.

El Segundo

Developments in the El Segundo field of Los Angeles Basin the past week were disappointing. Standard Oil Co.'s initial well proved to be a dud. It was bottomed in Schist at 7,095 feet, and while only 1,500 feet northwest of the largest completion in the field, it failed to find either the nodular shale or the productive conglomerate. Before abandonment, the company will thoroughly log the well. Standard's No. 1 El Segundo refinery definitely limits the northwestern end of the field.

In the eastern end of the field, the Texas Co. No. 2-2 Johnson is bottomed in the Schist at 7,750 feet and operations have been suspended as the well failed to show any evidence of production. No. 2-2 Johnson is one location north of No. 2-1 Johnson, completed several months ago as a small producer. Union Oil Co. completed two small wells on its Security lease and the excessive water cut indicates they are edge wells. Due west of the Union's wells Richfield Oil Corp. is experiencing difficulty in completing No. 1 Santa Fe, which is bottomed in Schist at 7,640 feet. Republic Petroleum Co., discoverer of the El Segundo field, should complete No. 8 El Segundo within another week or 10 days, as drilling operations have been concluded in Schist at 7,408 feet. Top of the oil conglomerate was logged in this well at 7,364 feet and top of the fractured Schist at 7,381 feet.

Kettleman Hills

In the Kettleman North Dome field, Union Oil Co. has recompleted No. 2 Amerada King after redrilling the hole to bottom and landing 592 feet of 4¾-inch liner carrying perforations at 7,996-8,087 feet and at 8,152-8,493 feet. The well was returned to production flowing 380 bbls. of 33.9 gravity oil, cutting 10 per cent. Kettleman North Dome Association added a new well by completing No. 56-28-J flowing 2,400 bbls. of clean 35.2 gravity oil and 3,800,000 feet of gas per day. No. 56-28-J was bottomed at 8,145 feet and finished with 350 feet of 4¾-inch liner, carrying perforations at intervals between 7,837 feet and 8,141 feet.

Santa Maria

Another excellent well was completed in the Santa Maria Valley field when No. 1 Bradley, a joint project of Hancock Oil Co. and R. R. Bush Oil Co., was brought in flowing at the rate of 4,000 bbls. of clean 16.5 gravity oil and considerable gas per day from 4,875 feet. This new well, originally carried down to 5,167 feet but plugged back to the completion depth, is shut in due to lack of storage facilities. Most wells in this field are brought in on the beam and the showing of this producer was surprising. Union Oil Co. No. 3-23 Enos, which offsets A. N. Macrate No. 1 Fernandez in the Santa Maria Valley field to the north, has been put on the pump and showed a daily yield of 310 bbls. of 15.4 gravity oil with a cut of 15.4 per cent. Signal Oil Co. has just leased the Yelkin, Newlove and Liben properties embracing 320 acres in section 26-10-34 on a one-seventh royalty basis and a cash bonus of $250 per acre. The east line of this lease is about 3,000 feet west of A. N. Macrate's Fernandez well, which is one of the largest in the field.

Kern County

Superior Oil Co. abandoned its wildcat northeast of the Ten Section field of Kern County due to mechanical trouble and the unfavorable outlook at 12,618 feet. It failed to show anything that even minutely justified a production test. Drill pipe stuck while the bit was rotating ahead at the completion depth and the string was recovered down to 11,200 feet. This is the deepest wildcat drilled out in the floor of the San Joaquin Basin in an area where in future years considerable deep drilling will be needed to thoroughly test out the possible column.

Shell Oil Co. is starting a new wildcat in the Bellview district of Kern County in section 31-29-27 a few miles west of Bakersfield and about 3 miles southwest of the Fruitvale field. Rig construction has already got under way and spud is scheduled to be made June 15.

East Side Fields

In the new eastern extension of the Round Mountain field, Eastmont Oil Co. has cemented a string of 8⅝-inch in No. 2 Olcese at 1,840 feet after bottoming the well in pay at 1,880 feet. Top of the Vedder zone was found about 7 feet higher than the depth at which it was picked up in No. 1 Olcese, the discovery well. This tends to indicate that the area will prove larger than originally expected and that Shell Oil Co. will benefit to a considerable extent due to its extensive holdings which it has from the Olcese estate in section 16-28-27. In the Fruitvale field Pal-Pen Oil Co. completed No. 2 in section 23-39-27 pumping 165 bbls. of 15.9 gravity oil per day from 3,197 feet. Berree Oil Co. No. 5 Seale in the Edison field, section 5-30-29, was given a pumping test a few days ago from 6,026 feet after the hole had been cleaned out to 3,778 feet but it was good for only 15 bbls. of 14.3 gravity oil per day on the beam.

Dominguez

In the Dominguez field, Union Oil Co. completed No. 52 Callender in the seventh Callender zone flowing 226 bbls. of clean oil through a 46-64-inch bean. Gravity of the oil was 30.3 degrees and the cut was 1.4 per cent. No. 52 Callender was bottomed at 6,764 feet with 8⅝-inch casing set at 6,265 feet. Meanwhile drilling crews continued swabbing and bailing efforts on No. 5 Callender, the company's deep test in the Dominguez field, which is bottomed at 10,435 feet. Shell Oil Co. deep test, No. 90 Reyes, is held up with a fishing job at 9,619 feet and very little progress was made during the past week. The company is endeavoring to cut out the upper part of the drill pipe in order to permit completion of the well in a zone above that originally scheduled.

Rosecrans

Barnsdall Oil Co. changed its original plans on No. 12 O'Dea in the Rosecrans field and finished this well in a zone above the deep horizon which the company discovered a few months ago. The well showed so much kick and promise at 6,568 feet that the company decided to give it a chance to produce from this depth

(Continued on Page 104)

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	May 27		May 20			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	176,726	151,541
Gasoline	.....	.....	177,524	25,361	1,299,476	2,798,566
Kerosene	.....	.....	68,191	9,742	198,231	568,099
Foreign exports:						
Crude oil	243,142	34,735	199,760	28,537	5,349,623	4,065,983
Fuel oil	280,514	40,073	250,180	35,740	5,657,296	4,284,802
Diesel and gas oil	147,409	21,058	101,384	14,483	2,816,423	2,421,667
Gasoline	198,072	28,296	150,616	21,517	2,845,299	2,663,409
Kerosene	29,282	4,183	10,107	1,444	933,625	424,226
Other unfinished oil	.....	.....	.....	.....	402,700	16,894
Coastwise-domestic:						
Crude oil	25,130	3,590	276,621	39,517	2,620,159	3,124,240
Fuel oil	258,484	36,926	308,211	44,030	5,996,867	3,544,691
Diesel and gas oil	23,041	3,292	29,468	4,210	992,669	519,927
Gasoline	363,311	51,902	444,628	63,518	5,362,709	5,400,464
Kerosene	.....	.....	.....	.....	69,559	88,684

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	152,932	.....
Gasoline	.....	.....	.....	.....	25,778	71,960
Asphalt	.....	.....	.....	.....	65,790	68,586
Lubricants	.....	.....	2,999	428	9,847	18,129
Foreign exports:						
Crude oil	.....	.....	71,759	10,251	1,129,153	1,162,490
Fuel oil	21,214	3,031	47,573	6,796	726,517	1,343,990
Diesel and gas oil	.....	.....	26,627	3,804	1,070,507	376,370
Gasoline	.....	.....	352,770	50,396	2,425,646	1,350,142
Kerosene	.....	.....	15,734	2,248	301,637	282,365
Lubricants	.....	.....	20,959	2,994	263,364	129,925
Coastwise-domestic:						
Fuel oil	206,289	29,470	242,432	34,633	2,602,599	3,087,097
Diesel and gas oil	.....	.....	17,118	2,445	280,247	273,894
Gasoline	.....	.....	72,814	10,402	1,736,390	2,032,620
Kerosene	.....	.....	5,986	855	72,094	58,932

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$ .80	$ .79	$ .74	$ .78	$ .79	$ .80	$ .76	....	....	....	$ .80	$ .76	$ .76	$ .77	$ .78	....	....	$ .70	$ .70	$ .70	....	....	$ .70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$ .70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$ .70	.74	.74	.71	$ .70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$ .78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$ .84	$ .79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$ 1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$ 1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

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Among Gulf Coast Drilling Contractors

In the Big Thicket area of southeastern Polk County drilling contractors are making rapid progress in developing the Segno field in spite of difficulties offered by the thick undergrowth and the lack of good roads. In order to move the rig from one location to another the operators have to clear right of way through the dense forest, and many hours are spent in blasting stumps in order to dig slush pits and set up the rig. There are six rigs running in the area. Jordan Drilling Co., which recently marked up a 1½-mile southeast extension for the field, is rigging up on Humble Oil & Refining Co. No. 4-B Kirby, an east offset. In the field proper, William Thomson has two rigs running for J. K. Dorrance, Sheffield & Thompson and the Crosby Drilling Co. are drilling for Gulf Oil Corp. and Laquinta Oil Co. Ten wells have been completed and an average of 25 to 30 days' drilling time is being made, although the field is in its early stages of development and very little is known about the subsurface conditions. The main producing horizon is from the Upper Cockfield sand below 5,100 feet, while one well is producing from a stray sand between the Upper and Lower Cockfield sands. As yet no thorough test has been made of the Lower Conroe sand.

George Echols has apparently opened a deeper pay horizon for the Heyser field in Calhoun County by his No. 4 Bennett, which is being tested after showing 650 feet of pipe line oil on a drill stem test at 5,742-47 feet. The well, about 1 mile north of the field proper in Victoria County, was completed recently in the regular producing horizon at 5,400 feet for a large distillate producer. Should the test make a good well, an immediate drilling campaign is expected to be started with the lead taken by Sinclair Prairie Oil Co. and the Sun Oil Co. which control considerable offsetting acreage. While he was opening this extension for himself he has apparently opened a new producing field for the Louisiana Gulf Coast by the showing of Fohs Oil Co. No. 1 State Long Lake in Lafourche Parish which is running a production string of 7-inch casing to 9,304 feet, the total depth. No drill stem test was attempted, but enough oil and gas sands have been encountered to assure the test making a commercial producer. Other activity is reported in Marion County, where he is rigging up for Fohs Oil Co. No. 1 McReynolds, while another is located for the same company in the Gillis field.

Loffland Brothers have spudded No. 1 Brookshire, a half mile east of the discovery well of the Abbeville field in Vermilion Parish, which reached a total depth of 12,216 feet before it was plugged back and completed for a distillate well below 7,500 feet. No. 1 Brookshire will probably be drilled below the 12,000-foot horizon in order to make a good test of that section which showed oil and gas. Two wells were completed in the West Beaumont field for the Stanolind Oil & Gas Co. and the rigs have been moved to new locations. Other drilling operations are at the Hastings field for the same company.

(Continued on Page 106)

On location in the piney woods of southeastern Polk County is this day tour of Jordan Drilling Co., rigging up a second test to be drilled for the Humble Oil & Refining Co. in the Segno field. Standing: P. W. Watkins, C. E. Whitehead, S. F. Jordan (contractor), H. S. Eddings, C. O. Poland, C. E. Wren, N. C. Currie, S. T. Williams. Sitting: Bob Martin

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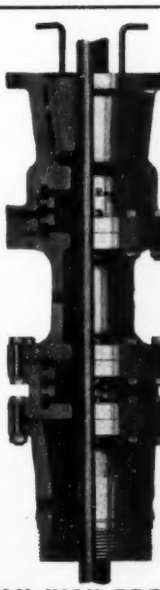

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Oklahoma Operations

By DAL DALRYMPLE

CARTER'S CENTRAHOMA TEST MAKES GOOD SHOWING OF OIL

The Carter Oil Co. may have opened a field in Coal County, Oklahoma, in its No. 1 Thompson in C S half NE NW section 34-2n-9e, in the Centrahoma district. The well, which was a failure in deeper horizons, bottomed at 7,126 feet, was plugged back to 6,330 feet and treated with 6,000 gallons of acid through 270 perforations in the casing at 6,140 feet to 6,235 feet. On Saturday while being cleaned out it made flows by heads, coming irregularly, and lasting from five to 15 minutes. The oil tested 56 degrees in gravity. The well made several head flows on Sunday, one flow shooting the oil above the top of the derrick. The crew bailed down to 3,400 feet on Monday, but the fluid rose in the hole within 400 feet of the top.

The Carter Oil Co. also made a discovery in Hughes County, the importance of which was not yet known at this writing. In its No. 1 Hamilton C W half NE SW section 33-4-9, in southern Hughes County, it showed 700 feet of oil and 400 feet of oily mud on a drill stem test from McLish at 5,945-82 feet.

The largest well completed in the course of the past week was Sinclair Prairie Oil Co. and others No. 4 Bagby, SE SW NW section 27-10-2w, in the south end of the Moore pool in Cleveland County, which was given a potential rating of 18,782 bbls. per day. It flowed 1,002 bbls. the first hour and in the succeeding three hours flowed 800 bbls., 756 bbls. and 892 bbls. and a gas production of 40,000,000 feet per day. Its total depth is 7,278 feet.

The Moore pool was extended a location north on Saturday. Anderson-Prichard Oil Co. tested its No. 3 State, SW NW SE section 16-10-2w, for five hours. Connections were endangered by sand cutting and the test was abridged on that account. The well flowed 675 bbls. into tanks and about 300 bbls. into pits in the five hours, with gas at the rate of 40,000,000 feet per day. Wilcox sand was topped at 7,227 feet, total depth 7,285 feet. Two other wells in the field were ready for completion but the owners feared the cutting of connections by sand, and may ask for arbitrary potentials for the balance of June. These wells are Sinclair Prairie Oil Co. and others No. 3 Marvel in NW NE NE section 21-10-2w, and Phillips Petroleum Co. No. 1 Oklahoma, SW SE SE section 16-10-2w. The Sinclair Prairie well indicated about 50,000,000 feet of gas and an unestimated quantity of oil, and the Phillips well about 10,000,000 feet of gas, and 100 bbls. of oil per hour.

Noble County

Magnolia Petroleum Co. No. 1 Forsythe, SE SE SW section 23-21-2w, Noble County, a wildcat was abandoned as dry at 5,393 feet. Second Wilcox sand was topped at 5,383 feet, but it was white and salty.

In the Billings pool, Phillips Petroleum Co. and Shell Petroleum Corp. No. 11 McCaughtry, NW SW NE section 21-23-2w, flowed 798 bbls. in four hours and 25 minutes while running tubing.

Continental Oil Co. No. 2 Conway, NE NE NW section 21-23-2w, flowed 181 bbls. in one hour and then settled to 80 bbls. an hour at total depth of 4,319 feet. It extends deep production northwesterly. No. 3 Conway was also near critical depth, NE SE NW section 21-23-2w, flowed 218 bbls. the first hour and 225 bbls. the second with gas at the rate of 10,000,000 feet per day, total depth 4,312 feet. Tubing was being run.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Henn, 396 feet from south and 330 feet from east lines of NE quarter section 32-20-2w, Lucien pool, was shot with 20 quarts at 4,978-98 feet and flowed 231 bbls. in 24 hours. Tubing was being run.

Kay County

Shell Petroleum Corp. and Continental Oil Co. No. 5 Lawrence, SE cor. NW section 5-28-1w, Braman pool, Kay County, had Layton sand at 2,748 feet, first oil at 2,765 feet, total depth 2,779 feet. It flowed 268 bbls. in 24 hours before it was shot and after a 6-quart shot it swabbed 297 bbls. in 24 hours. The crew was swaging 5⅛-inch casing at 2,751 feet.

Raydon Oil Co. abandoned its test in the Langston townsite in Logan County. The well known as No. 1 Stroud on Black 92 had Wilcox sand at 5,228-57 feet which was dry. The formation checked about 160 feet lower than in the discovery well.

Pontotoc County

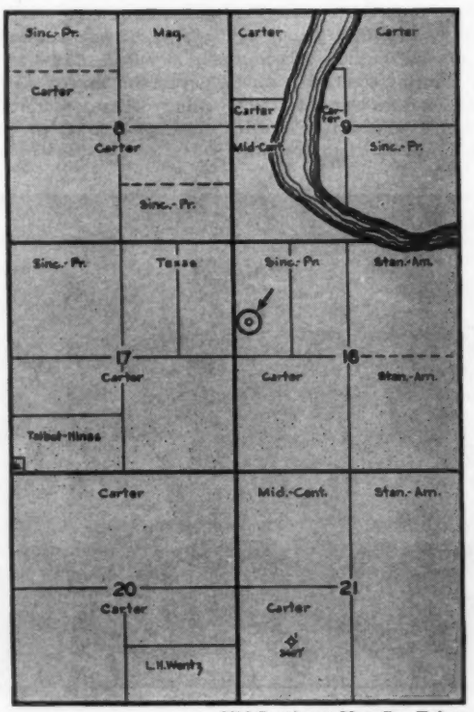
In the Fitts pool, Pontotoc County, the following completions were recorded:

Skelly Oil Co. No. 2 Smith, 400 feet south and 259 feet west of NE cor. section 35-2-6, a twin, Hunton lime at 3,617 feet, Sylvan at 3,778 feet, total depth 3,855 feet, acidized with 12,000 gallons, flowed 518 bbls. of oil, gross, in 3½ hours, and was given a potential of 922 bbls. and 2,500,000 feet of gas.

Burke Greis Oil Co. No. 7 Chambers, NW cor. section 36-2-6, Hunton at 3,503 feet, Sylvan at 3,718 feet, Viola at 3,860 feet, total depth 3,864 feet; casing perforated at 3,503-3,713 feet, and given 5,000 gallons of acid. It flowed 344 bbls., gross, in 2½ hours. Later it flowed 255 bbls. in two hours, and was given a potential of 3,099 bbls. and 4,200,000 feet of gas.

Magnolia Petroleum Co. No. 1 Chambers, NW SW NW section 36-2-6, had Hunton at 3,916 feet and Sylvan at 4,139 feet, total depth 4,144 feet. It flowed 614 bbls. of oil gross in one hour, with 2,500,000 feet of gas per day, and was given a potential of 3,565 bbls.

Amerada Petroleum Co. No. 13 Woolley, SW SE NW section 22-2-7, had Hunton at 3,737 feet, total depth 3,751 feet. It flowed 227 bbls. in two hours and was given a 2,274-bbl. potential rating and 1,500,000 feet of gas.



Mid-Continent Map Co., Tulsa.

Sinclair Prairie Oil Co. and others No. 1 Crisman, C W half SW NW section 16-25-3w, is one of two community wildcats being drilled in Grant County

Sinclair Prairie Oil Co. No. 2 McCarty, SW NW NE section 22-2-7, topped Hunton at 3,896 feet, total depth 3,915 feet. It was given a potential of 4,084 bbls. per day, and 2,600,000 feet of gas.

E. H. Moore No. 8 G. Smith B, 330 feet south and 1,065 feet west of NE cor. section 36-2-6, found Hunton at 3,640-70 feet. It was acidized with 10,000 gallons and earned a potential of 3,200 bbls. per day.

Sinclair Prairie Oil Co. No. 1 Vivian, SE SW NW section 22-2-7, topped Hunton at 3,731 feet, total depth 3,750 feet, flowed 262 bbls. of oil in six hours with about 13 bbls. of water. It earned a potential of 1,201 bbls. of oil per day.

Skelly Oil Co. No. 11 Metropolitan Life, 405 feet from east and 330 feet from south lines of SW quarter section 23-2-7, made a potential of 1,375 bbls. from Hunton lime at 3,608-78 feet, which was acidized.

J. E. Crosbie, Inc., No. 3-C Burris, 390 feet north and 880 feet west of C section 27-2-7, a triplet well, had Cromwell sand at 2,358 feet, total depth 2,515 feet, and flowed 132 bbls. of oil in four hours through tubing.

E. H. Moore, Inc., No. 6-A Woodruff, 1,026 feet from north and 393 feet from east lines of SE quarter section 29-2-7, topped Hunton at 3,230 feet, Sylvan at 3,503 feet and total depth 3,504 feet. It was acidized with 5,000 gallons and flowed 102 bbls. in 80 minutes through tubing and casing. It was given a potential of 518 bbls. of oil and 2,200,000 feet of gas.

Magnolia Petroleum Co. No. 13 Harden, NE NE NW section 30-2-7, got the top of the Bromide at 4,290 feet and first sand at 4,380 feet. It was given a 10,000-gallon acid treatment and earned a potential of 2,247 bbls. of oil and 2,400,000 feet of gas.

Outside of Fitts, but in Pontotoc County, Papoose Oil Co. No. 1 Jones, NW SE NW section 2-4-5, a Wilcox sand test, was dry and abandoned at 2,840 feet. It did not find Wilcox sand.

Sinclair Prairie Oil Co. No. 2 Gordon, SE SW NE section 21-5-5, was completed in Viola lime and made an 80-bbl. well at 2,585-95 feet, after a shot.

New Work

New work in the Fitts district included Magnolia Petroleum Co. No. 1 B. Reeves, C SE SE NE section 35-2-6, cellar and pits; Fleetborn Oil Co. No. 2-A Lewis, 990 feet from east and 405 feet from south lines SW quarter section 19-2-7, rigging up rotary; Magnolia Petroleum Co. No. 2 F. C. Norris, C SW SE NE section 21-2-7, cellar; Sinclair Prairie Oil Co. No. 3 McCarty, C NW NE NE section 22-2-7, cellar and pits; J. E. Crosbie, Inc., No. 2-C Burris, 515 feet from south and 235 feet from east lines NW quarter section 27-2-7, cellar for triplet well; Magnolia Petroleum Co. No. 22 Simpson, 430 feet from north and 990 feet from east lines of NE quarter section 29-2-7, location for Cromwell sand well, triplet; Magnolia No. 21 Simpson, 890 feet from east and 940 feet from north lines of NE quarter section 29-2-7, cellar and pits, triplet; Magnolia No. 20 Simpson, 890 feet from east and 945 feet from south lines of NE quarter section 29-2-7, cellar.

Frances Oil & Gas Co. spudded No. 1 Cravens, C SE SE SW section 13-5-5. Mid-Continent Petroleum Corp. was rigging up rotary for No. 1 Schaupp C SW NW SW section 24-5-6, a wildcat.

Near Completions in Fitts

Arrow Drilling Co. No. 2 Lewis, SW SW SE section 19-2-7, perforated casing at 3,648-3,955 feet (Hunton

lime) with 250 shots and flowed 292 bbls. net oil in 1½ hours through casing and tubing. It has been drilled to 4,111 feet. Magnolia Petroleum Co. No. 1 F. Norris, SE SE NE section 21-2-7, had Hunton at 3,725-65 feet, total depth. It flowed 409 bbls. of oil in two hours through casing and later 288 bbls. in two hours through tubing. It was given 10,000 gallons of acid and flowed 374 bbls., gross, through casing in one hour. Same company's No. 12 M. Norris, NE NW SE section 21-2-7, had Hunton at 3,645-3,724 feet, was acidized with 10,000 gallons and flowed 139 bbls. of oil net in one hour. Amerada Petroleum Corp. No. 12 Wooley, SE SE NW section 22-2-7, with Hunton at 3,718-78 feet, was plugged back 1 foot, and flowed 405 bbls. in five hours through casing and tubing, but it was cutting 5¼ per cent with water. Same company's No. 14 Wooley, NE SE NW section 22-2n-7, flowed 1,719 bbls. of oil in 22 hours from Hunton at 3,794-3,810 feet. Magnolia Petroleum Co. No. 16 D. Harden, NW NE NW section 30-2-7, was acidized with 10,000 gallons in Hunton lime topped at 3,623 feet, total depth 3,911 feet. It flowed 373 bbls., gross, in one hour through casing.

Seminole District

J. W. Stuart, J. Hall and others No. 1 Stuart, SE SW NE section 30-6-8, Seminole County, was dry and abandoned at 1,300 feet. Senora sand at 1,260-70 feet was barren of oil.

Sinclair Prairie Oil Co. No. 2 Kouri, SW SE SE section 13-7-6, was dry and abandoned at 3,280 feet. It was an old well plugged back from 4,163 feet.

J. F. Smith and others No. 2 Huddleston was completed in Senora sand at 2,913-36 feet. It was shot with 15 quarts and flowed 140 bbls. in 24 hours and later flowed and swabbed 110 bbls. in one day.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Cully B, SE NW SW section 12-5-7, was completed in Wilcox sand at 4202-21 feet and 4,316-43 feet. It was acidized and the well swabbed 96 bbls. of oil net in 10 hours.

Amerada Petroleum and others No. 1 McLaren, Seminole County, was good for 1,455 bbls. a day on completion in Cromwell sand at 3,620-37 feet.

Tide Water Associated Oil Co. recompleted No. 2 Nelly, SE NE SE section 12-8-5, plugging it back from 4,360 feet to 4,180-4,200 feet where it made a 10-bbl. well.

Texas Co. completed a Cromwell sand 36-bbl. pumper at 3,450-57 feet in No. 4 Grisso, SE NW NW section 16-9-7.

In Hughes County Empire Oil & Refining Co. No. 1 Born B, SE SW NW section 20-7-8, was a 232-bbl. completion from Booch sand at 2,871-2,928 feet.

In Pottawatomie County, J. F. Smith No. 2 Brandenburg B, NE SE SW section 34-8-4, swabbed 50 bbls. in 24 hours from Hunton lime at 3,908-90 feet and was completed.

A. L. Kraft, production superintendent of Cushing and Bristow district for the Texas Co., watching the drilling of one of the company's wells in the Crescent field

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 2 Rushing, SW SE SW section 32-11-4, had Earlsboro sand at 4,380 feet, total depth 4,441 feet, and flowed 282 bbls. in 24 hours with 3,000,000 feet of gas and was completed.

Indian States Oil Co. No. 1 Gunter, 1,175 feet from south and 330 feet from east lines of SW quarter section 32-11-4, flowed 239 bbls. in 24 hours when completed in Earlsboro sand at 4,360-4,446 feet.

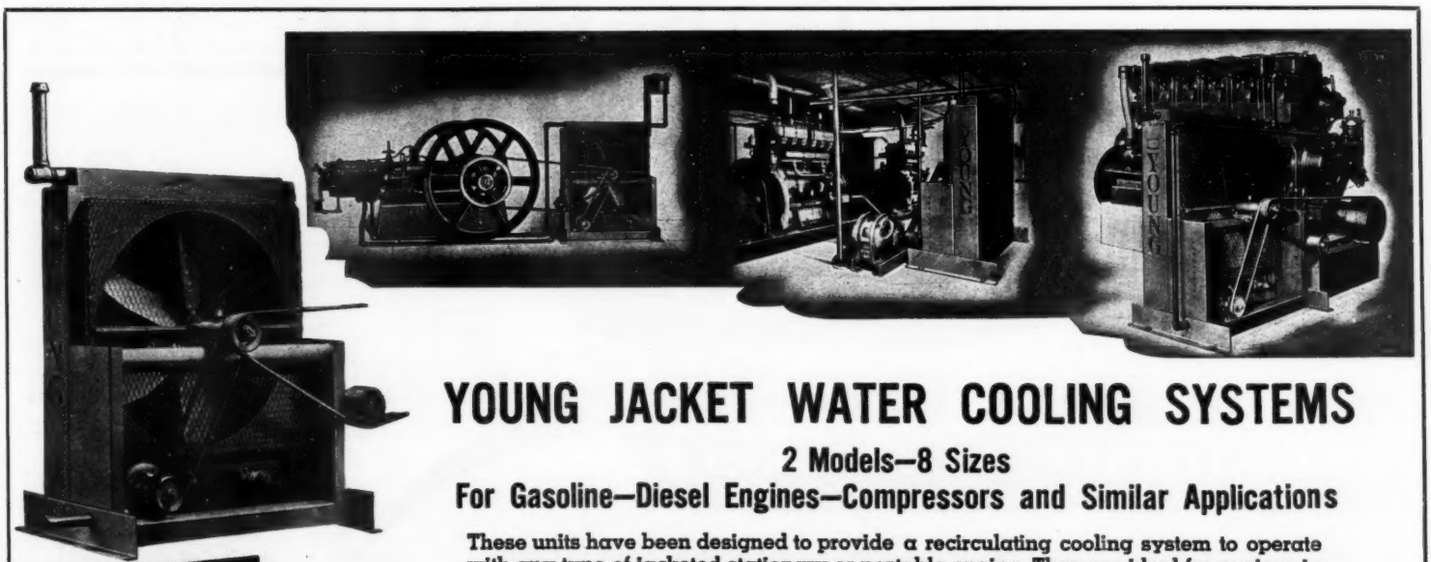
J. F. Smith No. 1 Kious, NW SE SE section 34-11-8, was dry and abandoned at 2,002 feet.

New work in the greater Seminole district includes W. B. Pine No. 3 Williams, C SW NE NE section 22-6-6, spudded with machine; Pine No. 4 Williams, 1,030 feet from north and 290 feet from east lines NE quarter section 22-6-6, cellar and pits; Gulf Oil Corp. and others No. 2 Barton, C SE NE NW section 13-7-4, building rig; J. F. Smith and others No. 3 Huddleston, C SE NE NW section 32-7-6, location; Empire Oil & Refining Co. No. 1 fee, 247 feet from north and 928 feet from west lines SW quarter section 20-7-8, spudded with machine; J. F. Smith and others No. 1-A Scroggins B, 405 feet from south and 320 feet from west lines of NE quarter section 20-7-8, rigging up rotary; Winona Oil Co. and Jarvis & Holm No. 1 L. Jackson, 1,190 feet from north and 947 feet from west lines of NW quarter section 20-7-8, building rig; Sinclair Prairie Oil Co. No. 1 Bruner, C NW NW NW section 2-9-9, Hughes County, old well plugged back from 3,295 feet to 2,820 feet, and waiting for cement to set; Earl Evans and others No. 4 Smith, C SW NE NW section 36-10-8, Okfuskee County, drilling at 700 feet; Sinclair Prairie Oil Co. No. 1 Fisher, C SW NE SW section 19-10-9, drilling at 115 feet; Sinclair Prairie Oil Co. No. 6 Palmer, NE NE NW section 19-10-9, building rig; Mid-Continent Petroleum Corp. No. 2 Logan, C SE NE SE section 31-11-5, Pottawatomie County, cellar and pits; Amerada Petroleum Corp. No. 3 Klobzuba, C SE SW SE section 35-11-5, cellar and pits.

Paul Traugh No. 1 Dotson, NE SE SE section 22-6-6, Seminole County, had 1,000 feet of oil in the hole from sand at 2,351-61 feet. The crew was bailing. Devonian Oil Co. No. 1 Whitefield, NE NE NW section 27-7-7, was shot with 10 quarts at 2,121-26 feet and at 2,117-22 feet, and swabbed 72 bbls. of oil in 16 hours. It will be put on the pump.

In Southern Fields

Cox & Hamon drilled a dry hole to a total depth of



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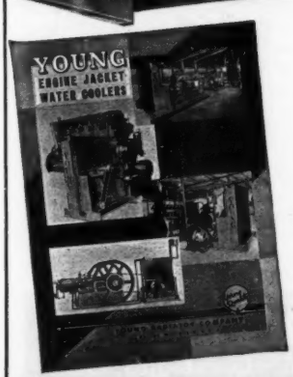

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3,153 feet in No. 2 Norton, C NW SW NE section 32-1n-3w, Garvin County. Skelly Oil Co. No. 1 Cross, C SE NE SW section 32-1n-3w, was completed at 2,626 feet with an initial production of 87 bbls. in 13 hours.

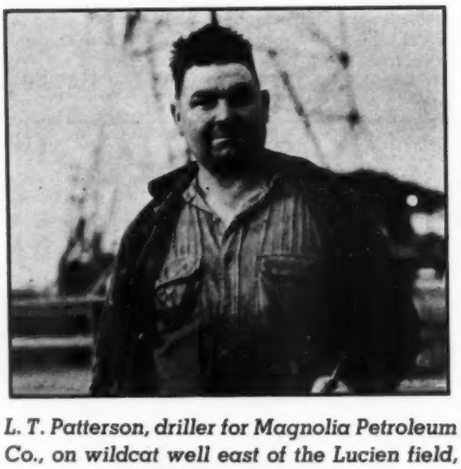
In Stephens County George L. Pace No. 6 Duncan, SW NW NE section 28-2s-7w, was dry and abandoned at 1,764 feet. Healdton Petroleum Co. completed a 2-bbl. well at 486-94 feet in No. 8 Jameson, NE cor. SW SE section 14-2s-4w.

In Carter County, Carl Carter No. 10 Harley, SW NW SW section 19-2s-3w, was dry and abandoned at 600 feet. Ideal Oil & Gas Co. No. 12 Scroggins, SE cor. SW SE SE section 32-3s-3w, is a 12-bbl. pumper at 1,040-90 feet, after a shot. Sinclair Prairie Oil Co. No. 6 Lowman, SW SW SE section 9-4s-3w, is a 1-bbl. pumper at 1,190-94 feet. Kewanee Oil & Gas Co. No. 16 Jones, SW cor. NW NE SW section 4-4s-3w, was temporarily abandoned at 810 feet.

In Jefferson County, Palmer and others No. 3 Barrett, SE SW SW section 19-6s-5w, was abandoned at 1,590 feet.

In Tillman County, Magnolia Petroleum Co. No. 1 Brown, C SW SE NE section 21-3s-18w, was dry and abandoned at 6,484 feet. This test had the base of the Red Beds at 780 feet; Granite Wash at 1,440-2,600 feet; top of Canyon at 3,480 feet; top of Strawn at 4,335 feet; base of the Pennsylvanian at 6,040 feet and top of the Arbuckle at 6,300 feet. It had no showings.

New work in southern fields included Gulf Oil Co. No. 5 Edwards, C NE NE SE section 3-1n-20w, Jackson County, cellar and pits; Cox & Hamon No. 2 Craig, C SW NE NW section 32-1n-3w, Garvin County, location; Cox & Hamon No. 4 Craig, C NE NE NW section 32-1n-3w, location; same operator's No. 2 Dixon, C NW SE NW section 32-1n-3w, cellar and pits; Carter & Ring No. 12 Arm, 50 feet from north and 990 feet from west lines NE quarter section 26-1s-5w, Stephens County, drilling at 265 feet; Simpson-Fell Oil Co. No. 3 Merrick, C SE SE NW section 9-2s-2w, Carter County, derrick; Wilkins and others No. 1-A Robinson, 810 feet from north and 830 feet from east lines of NE quarter section 15-2s-5w, Stephens County, 250 feet of oil in hole from sands at 833-44 feet and 871-78½ feet; Gouin & Kolb No. 1 S. Bond, CNL NW NE section 36-2s-7w, rigging up rotary for a 2,000-foot test; Snowden & McSweeney No. 28 Apple-Franklin, 910 feet north and 960 feet east of C section 9-4s-3w, Healdton pool, location; Sinclair



L. T. Patterson, driller for Magnolia Petroleum Co., on wildcat well east of the Lucien field, SE SW section 23-21n-2w

Prairie Oil Co. No. 3 Holman, SE cor. NE NW section 16-4s-3w, moving in machine to deepen from 1,297 feet. Palmer and others No. 4 Barrett, 780 feet from south and 1,032 feet from west line of SW quarter section 19-6s-5w, Jefferson County, location. Bridwell Oil Co. No. 1-D A. A. Spring, SE cor. NE NE section 25-6s-6w, drilling at 1,084 feet; Farlyn Oil Co. No. 44 Seay, SE cor. NW SW SE section 3-7s-5w, rotary tools rigged up; Centrop Oil Co. No. 1-A Ayers, SE cor. NE SE section 25-7s-5e, Marshall County, rigging up machine to deepen from 516 feet.

Coal County

Carter Oil Co. and others have cellar and pits dug for another deep test in Coal County, No. 1 Clayton, C W half NE SW section 27-2-9.

Estimated Daily Production

Estimated daily production of Oklahoma for the week ending June 5, and for the preceding week, was as follows:

	Barrels	
	June 5	May 29
Allen	5,580	5,775
Burbank	8,150	7,875
South Burbank	16,100	16,400
Balance Osage	21,500	22,300
Blackwell district	5,350	5,325
Bristow-Slick	7,700	7,725
Chandler	3,125	3,200
Crescent	12,200	12,125
Cromwell	3,500	3,600
Cushing-Shamrock	10,350	10,400
Duncan district	4,100	3,700
Edmond	21,550	21,200
Fish	5,750	5,900
Fitts	93,425	101,775
Jesse	2,300	3,950
Graham	4,625	4,775
Gray	1,175	1,375
Healdton	9,900	9,750
Hewitt	4,425	4,450
Holdenville	950	925
Keokuk	9,425	10,250
Lucien	15,400	14,300
Moore	13,500	13,100
Oklahoma City	152,200	165,275
Olympic	15,125	14,200
Polo	1,300	1,475
Sasakwa and townsite	2,750	2,800
Sholem-Alechem	3,250	3,100
Seminole:		
Bowlegs	11,775	11,600
Carr City	5,700	5,850
Earlsboro	6,300	6,350
South Earlsboro	750	750
East Earlsboro	7,450	7,600
Little River	11,350	11,050
East Little River	1,075	1,125
Maud	825	800
Mission	2,350	2,275
Seminole	9,350	9,250
East Seminole	3,275	3,050
Searight	4,850	5,000
Total Seminole	65,050	64,700
St. Louis-Pearson	23,150	22,925
Tatums	4,900	5,150
Tonkawa-Garber-Thomas	11,500	9,950
Wewoka	3,125	3,250
Yale-Jennings	4,125	4,250
Other pools	75,795	73,525
Total Oklahoma	642,350	660,775

Logan County

Champlin Refining Co. No. 3 Pfeiffer, SE NE NW section 4-19-2w, Crescent pool, Logan County, was completed. It was given a 24-hour potential of 5,405 bbls.

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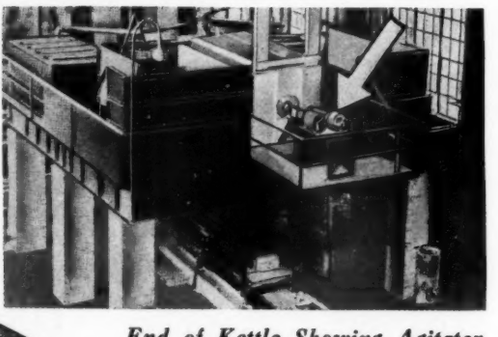

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and 10,250,000 feet of gas, from Wilcox sand topped at 4,886 feet, total depth 5,090 feet. It flowed 2,875 bbls. in 12 hours through casing.

Phillips Petroleum Co. No. 3 Pfeiffer, SW NW NE section 4-19-2w, flowed 2,503.27 bbls. in 12 hours through casing and was given a potential of 4,706 bbls. per day, producing from Wilcox sand topped at 4,876 feet and 4,955 feet, total depth 5,072 feet.

Phillips Petroleum Co. was building rig for No. 4 Pfeiffer, NW SW NE section 4-19-2w.

Grady County

Gulf Oil Corp. is deepening No. 2 Gibson, C NW SE SW section 16-3-5w, Grady County. The old total depth was 1,810 feet and the well was drilling at 1,830 feet.

Major County

Ed. V. Parsons and others have made location for a wildcat test in Major County, No. 1 Patzkowsky, C NW section 10-20-11w.

Osage County

Peters Petroleum Corp. and Sinclair Prairie Oil Co. No. 15, NE cor. SW NE section 24-24-7, Osage County, was made a pressure well at a total depth of 744 feet. Lewis Production Co. No. 7 Smith, 980 feet north and 300 feet west of SE cor. section 28-24-7, flowed 220 bbls. in 24 hours from Bartlesville sand at 2,553-2,643 feet. It was completed.

Lewis Production Co. and Peters Petroleum Corp. No. 8 Smith, 300 feet from south and 980 feet from west lines of SE quarter section 28-24-7, flowed 270 bbls. in 24 hours from Bartlesville at 2,519-2,607 feet, which had been shot. Completed.

Midco Oil Co. completed No. 2, 985 feet north and 300 feet east of SW cor. section 35-2-7, in Chat at 2,565-90 feet. It pumped 25 bbls. of oil and 100 bbls. of water.

Johnson Oil Refining Co. No. 11, 760 feet south and west of C section 30-21-9, drilling at 172 feet. Wolverine Oil Co. and others were building rig for No. 20 North Avant Unit, 610 feet south and 1,140 feet east of C section 31-24-12. Same operators deepened No. 27 on the unit property, 310 feet north and 535 feet east of C section 32-24-12 from 1,714 feet to base of the Bartlesville at 1;749 feet. The sand was shot and the crew was cleaning out. J. H. Alexander and others made location for No. 2, NW cor. SW section 30-25-12.

Eastern Fields

(Continued from Page 74)

feet at 1,457-64 feet. No. 7604 was completed at 1,818 feet, the Salt sand, good for 416,000 feet. The test on the E. G. Dunlap farm was completed in the Salt sand at 1,600 feet good for 200,000 feet. No. 4 Lewis Bennett was completed at 1,620 feet, the Salt sand, good for 176,000 feet.

In Calhoun County, Lyle S. Ayers and others completed a test on the H. G. Brannon farm in Lee district at 2,251 feet, the Injun sand. Big Dunkard was at 1,060-1,100 feet; Big lime, 2,148-2,221 feet; Big Injun, 2,221 feet, with 1,800,000 feet at 2,226-51 feet.

In Kanawha County, Cambridge Gas Co. completed No. 11 Garnet Wiseman in Washington district at 3,645 feet. Big lime was at 1,340-1,538 feet; Big Injun, 1,538-65 feet; Berea, 2,006-25 feet; Brown shale, 2,712-3,635 feet. The shale gas gauges 1,247,000 feet. In the same district, Owens Illinois Glass Co. completed a test on the Siler Coal Land Co. at 4,011 feet. Big lime was at 1,650-1,834 feet; gas, 1,740-95 feet; Big Injun, 1,834-1,906 feet; Berea, 2,337-55 feet; Brown shale, 3,004-4,001 feet; gas, 3,010-40 feet. The gauge is 794,000 feet.

In Lincoln County, Summerson & Swanson completed a test on the J. A. Thompson farm in Sheridan district at 3,342 feet. Big lime was at 1,367-1,552 feet; Big Injun, 1,560-1,600 feet; Berea, 2,123-38 feet; Brown shale, 3,065-3,342 feet, gauging 1,240 feet.

In Ritchie County, Frank Finley completed a test on the Lester Moore farm in Clay district at 2,119 feet, the Injun sand. The Keener and Injun sand gas gauged 300,000 feet. In Murphy district, Mud Lick Oil & Gas Co. completed No. 3 Alfred Collins at 2,236 feet. The Keener sand gas gauges 40,000 feet.

In Wetzel County, Hope Natural Gas Co. completed No. 7774 William Shaffer in Proctor district at 1,950 feet as a good gas well. Top of the Maxton sand was at 1,929 feet with 2,339,000 feet at 1,939-49 feet.

In Wayne County, Kentucky, West Virginia Gas Co. completed a test on the Ben Blankenship farm in Union district at 3,220 feet. Big lime was at 1,150-1,290 feet; Big Injun, 1,335-95 feet; Berea, 1,938-44 feet; Brown shale, 2,565-3,010 feet, with 1,530,000 feet at 2,765-2,940 feet.

Oriskany Field

One good gas well was completed in the Oriskany field in Kanawha County. In Poca district, Columbian Carbon Co. completed the test on the Mary Boggess farm at 4,887 feet, the Oriskany sand. It gauges 11,308,-000 feet with a shut-in pressure of 1,815 pounds.

In this district, Spartan Gas Co. shut down No. 2 Avilee Baldwin at 1,715 feet with a showng of 2,250,000 feet in the Big lime. It is being tested.

Two new locations were made, both in Poca district. West Virginia Gas Corp. made a location on the J. M. Burgess heirs farm, 1,166 feet north 68 degrees west of the Brawley-Reid good gas well on the C. C. Fisher farm. United Carbon Co. made a location on the H. P. Miller and others farm, 2,000 feet north 15 degrees east of the G. W. Facemeyer good gas well. Several additional tests should be completed within the week.

The most interesting test to be completed will be that of Godfrey L. Cabot, Inc., on the J. E. and M. D. Good farm in Poca district south of Sissonville, drilling at 4,237 feet, and the same operator's test on the Sarah Ann Null farm in Union district west of the entire field. In this district, Glenn Oil & Gas Co. is drilling at 4,160 feet on the Virginia Joint Stock Land Bank lease. Between the Campbells Creek field and the Coopers Creek field, Godfrey L. Cabot, Inc., has a location on the Roane Land Co. in Malden district, and also on the James A. Vickers in Elk district.

Outside Oriskany Tests

In Wirt County, Carnegie Natural Gas Co. is drilling at 4,375 feet in the deep test on the W. C. Patterson farm on the Burning Springs anticline in Burning Springs district. It is now in the Marcellus. In this district, Godfrey L. Cabot, Inc., is shut down at 5,370 feet on the Walter Hoffman farm waiting on a new line to continue fishing.

In Center district, Calhoun County, Godfrey L. Cabot, Inc., recovered the tools lost in the deep test on the Allen Hardman farm at 6,225 feet and has reached 6,232

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feet. The Oriskany sand, topped at 6,191 feet, will be drilled through to the Helderberg. There is no showing in the sand.

In Big Sandy district, Kanawha County, United Carbon Co. has reached 3,913 feet deepening No. 13 J. A. and M. F. Osborne. In Washington district, Jackson County, this company is down 900 feet and 667 feet in the two tests on the Elizabeth W. Perkins farm.

It is reported Belmont Quadrangle Co. will drill a deep test on the C. B. Wood farm in Steele district, Wood County, which will add interest to that block of acreage held by major interests.

East Texas Fields

(Continued from Page 84)

liams, 5,314-41 feet, 14 bbls. through one-eighth inch choke; No. 7 Monnig, dry and abandoned 9,971 feet, elevation 233 feet.

Cherokee County

Stoco Oil Co. and Joe Burnham No. 1 E. B. Parks, total depth 5,213 feet, dry and abandoned, elevation 417 feet.

Franklin County

Humble Oil & Refining Co. No. 3 Dawson, junked at 1,550 feet.

Henderson County

Fred M. Allison No. 3 Pettiette, 4,097 feet, 175 bbls. through one-eighth inch choke; No. 2 Wathen, 4,096-4,108 feet, 146 bbls. through one-eighth inch choke.

Hopkins County

Empire Oil & Refining Co. No. 4 Worsham, 4,525-55 72 bbls. through quarter-inch choke. Jones and others No. 1 Basham, 4,483-4,541 feet, 20 bbls. per hour.

Limestone County

A. W. Phillips and others No. 1 E. M. Speight, dry and abandoned 3,695 feet, elevation 402 feet.

Gregg County

C. K. Atkinson No. 4 Skipper, 3,538-54 feet, 35 bbls. per day on pump. Atlantic Refining Co. No. 82-A Judge, 3,494-3,627 feet, 112 bbls. per hour. Fain-McGaha, Inc., No. 17 Tooker, 3,585-3,630 feet, 20 bbls. in 15 minutes. Pechner-Hubbard No. 5 Tuttle, 3,552-77 feet, 25 bbls. in 15 minutes. Magnolia Petroleum Co. No. 7 Nicholson, 3,650-70 feet, 80 bbls. per hour. Stanolind Oil & Gas Co. No. 11 Meadows, 3,689-3,714 feet, 53 bbls. per hour. Sun Oil Co. No. 38 Haynes, 3,565-89 feet, 65 bbls. per hour; No. 16 Satterwhite, 3,560-3,651 feet, 32 bbls. in 30 minutes.

Tide Water Associated No. 9 Richey, 3,521-50 feet, 12 bbls. in 10 minutes. American Liberty Oil Co. No. 13 Weiss, 3,512-28 feet, 30 bbls. in 30 minutes. Dyck Oil Co. No. 8 Blackman, 3,680-81 feet, 19 bbls. in 45 minutes. Empire Oil & Refining Co. No. 9 Taylor, 3,692-3,709 feet, 8 bbls. in 15 minutes. Henry Oil Co. No. 9 Laird, 3,552-75 feet, 20 bbls. in 14 minutes. Gulf Oil Corp. No. 40 Spear, 3,533-44 feet, 62 bbls. per hour. R. Lacey No. 12 Reynolds, 3,533-3,600 feet, 26 bbls. in 30 minutes.

Magnolia Petroleum Co. No. 14 Utzman, 3,499-3,525 feet, 10 bbls. in five hours on pump. Rancho Oil Co. No. 2 Bean, 3,543-72 feet, 40 bbls. per hour. The Texas Co. No. 17 Walls, 3,683-87 feet, 28 bbls. in 25 minutes. Tide Water Associated No. 11 Clayton, 3,586-3,607 feet, 10 bbls. in 10 minutes. W. C. Turnbow Oil Co. No. 1 fee, 3,544-62 feet, 35 bbls. in two hours on pump; No. 6 Culver, 3,525-35 feet, 5 bbls. per hour on pump. Westgate Greenland No. 1 State, 3,446-49 feet, 70 bbls. per hour. Wheelock and Collins No. 12 Clayton, 3,545-55 feet, 17 bbls. per hour.

Titus County

Adams and Lyle No. 3 Davis, 4,240-4,319 feet, 423 bbls. per day on pump. Byrd-Frost, Inc., No. 2 Batson, 4,225-81 feet, 336 bbls. on pump; No. 4 Hargrove, 4,162-4,305 feet, 353 bbls. on pump. Humble Oil & Refining Co. No. 3 Davis, 4,235-97 feet, 24 bbls. on pump, 20 per cent water; No. 2 Davis, 4,192-4,331 feet, 356 bbls. on pump; No. 39 King, 4,110-4,312 feet, 215 bbls. in 12 hours on pump; No. 7 Monnig, 4,240-4,317 feet, 429 bbls. on pump. Magnolia Petroleum Co. No. 8 Mainard, 4,260-87 feet, 197 bbls. in 16 hours on pump.

Rusk County

Abercrombie and Harrison No. 16 Cantrell, 3,639-70 feet, 96 bbls. per hour. Empire Oil & Refining Co. No. 14 Leverett, 3,695-3,727 feet, 8 bbls. in 15 minutes. Humble Oil & Refining Co. No. 13 Wooley, 3,687-3,767 feet, 60 bbls. per hour; No. 14 Wooley, 3,635-3,707 feet, 20 bbls. in 19 minutes. J. F. Merrick No. 1 I.&G.N. R.R., 3,555-56 feet, 20 bbls. in 20 minutes. Shell Petroleum Corp. No. 15 Spivey, 3,658-3,730 feet, 36 bbls. in 30 minutes. Sinclair Prairie Oil Co. No. 5-D Kennedy, 3,604-81 feet, 12 bbls. per hour on pump. Aston and Greenway No. 13 Alford, 3,583-3,632 feet, 20 bbls. in 25 minutes.

Chicago Oil Co. No. 7 Alford, junked and abandoned 3,561 feet. Gant and others No. 20 Harris, 3,603-14 feet, 24 bbls. per hour. Gilcrease Oil Co. No. 11 Bradford, 3,612-50 feet, 12 bbls. in 15 minutes. Gulf Oil Corp. No. 15 Thrash, 3,608-16 feet, 80 bbls. per hour. Hunt Oil Co. No. 10 Thrash, 3,717-29 feet, 22 bbls. in 11 minutes. Ohio Oil Co. No. 42 Moore, 3,652-3,711 feet, 19 bbls. in 30 minutes. George W. Ray No. 12 Pinkston, 3,592-3,610 feet, 85 bbls. per hour. Sinclair Prairie Oil Co. No. 22-B Mayfield, 3,622-25 feet, 35 bbls. in 30 minutes. Staley Oil Co. No. 11 Hale, 3,636-3,717 feet, 40 bbls. per hour. Stanolind Oil & Gas Co. No. 29-A Maxwell, 3,797-3,829 feet, 48 bbls. per hour. Willard Oil Co. No. 6 Alford, 3,627-55 feet, 100 bbls. in two hours on pump. J. W. Woods No. 3 Dickerson, 3,565-77 feet, 35 bbls. in 10 hours on pump.

Smith County

Florence Oil Co. No. 1 Cole, 3,806-07 feet, 20 bbls. in two hours on pump. R. G. Byars No. 5 Jackson, 3,780-81 feet, 30 bbls. per hour. McMurray No. 21-A Turner, 3,814-15 feet, 25 bbls. per hour. Texas-Canadian Oil Co. No. 10 Jackson, 3,706-07 feet, 60 bbls. per hour. Texas-Gulf Oil Co. No. 8 Hodnett-Melton, 3,690-91 feet, 20 bbls. per hour.

Upshur County

A. L. Baggett No. 4 Owens, 3,726-27 feet, 50 bbls. per hour. General Crude Oil Co. No. 9 Graves, 3,651-52 feet, 18 bbls. per hour on pump; No. 10 Graves, 3,652-53 feet, 55 bbls. per hour. Gulf Oil Corp. No. 17 Ray, 3,577-82 feet, 36 bbls. per hour. Humble Oil & Refining Co. No. 21 Johnson, 3,671-3,737 feet, 50 bbls. per hour. Mudge Oil Co. No. 17-A Free, 3,621-90 feet, 110 bbls. per hour. P. H. Pewitt No. 7 Phillips, 3,749-50 feet, 30 bbls. per hour. Rancho Oil Co. No. 17 Edwards, 3,605-19 feet, 85 bbls. per hour. Rogers Oil Co. No. 4 Evers, 3,830-38 feet, 20 bbls. per hour on pump. The Texas Co. No. 10 Stinchcomb, 3,830-41 feet, 20 bbls. per hour.

Southwest Texas Fields

(Continued from Page 75)

feet is circulating, after conditioning mud for fighting high pressures. Casing was set in the test at 5,130 feet.

Laredo District

The principal area attracting attention in the Laredo district is the newly opened North Sweden field of Duval County. This field is now the scene of eight drilling operations, and three good wells were completed during the week, bringing the total to five. The wells, producing from around 4,800 feet average 200 bbls. per day initially. Other tests are on the sand, one of which when completed will extend production one-third mile to the west.

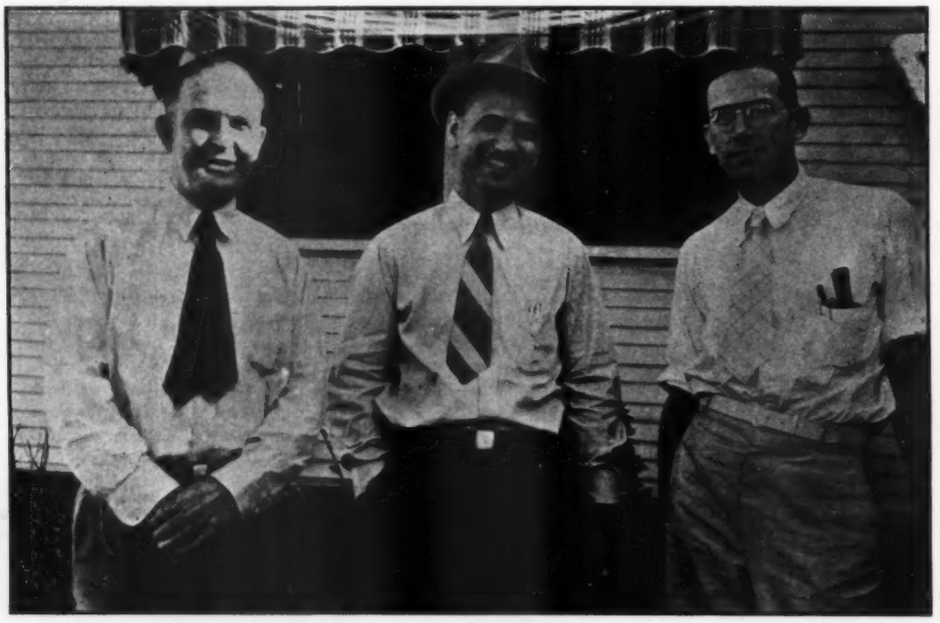
Charley George, scout for the Texas Co., Cisco, and Earl Hummel, consulting geologist, Abilene, Tex.

The Killam field of Webb County is seeing a revival in activity. The Mirando sand production area, which a short time ago looked disappointing, is gaining new locations, and further development will reveal much concerning the field's possibly extent. It contains three oil wells and one gas well.

In the Fault Line zone, the Wilcox Oil & Gas Co. No. 1 Gilliam, discovery well of the Batesville field in Zavella County flowed 1,470 bbls. in eight hours on a production test during the week. The crude is black, averaging 16.6 gravity.

Considerable interest is being manifest in K. E. Merren and others No. 1-A Starr County Cattle Co., a test in the Barbacoas field of Starr County, in the Lower Rio Grande Valley. The test, bottomed at 5,417½ feet, is flowing an estimated 50 to 100 bbls. per day of high gravity distillate, together with 12,000,000 to 15,000,000 feet of gas, on a 3/32-inch choke. Pressures are reported as 2,400 pounds on the casing and 2,250 pounds on the tubing.

Another interesting development in the Valley this week is the revival of drilling which is due the La Blanca field of Hidalgo County. The field, heretofore developed by the Pantana and Sterling interests will shortly have active tests being drilled by Atlantic Refining Co., D. Davenport and Fohs Oil Co. A high gravity crude is produced at La Blanca.



Three well-known Texas engineers, all of Kilgore: H. L. Welleford, district supervisor of conservation and engineering, for the Texas Railroad Commission; W. S. Morris, chairman of the East Texas Engineering Association, and C. M. Langford, Jr., district engineer, Texas Railroad Commission

West and North Texas

By
L. E. BREDBERG

FISHER COUNTY DISCOVERY STARTS PLAY IN STONEWALL

FORT WORTH, Tex., June 7.—The new Rotan field discovery well, Southern Oil Corp. No. 1 Joe Robinson, in section 172, Block 2, H.&T.C. Survey, 2½ miles northeast of Rotan, Fisher County, has not yet been gauged although a new control head has been installed to replace one that was leaking, and the well is shut in. While replacing the control head, which consumed about 10 minutes, the well flowed over the crown block, upholding estimates of 1,000 to 3,000 bbls. per day when casing is set and a potential test is made. It struck the pay at 3,502 feet a couple of weeks ago and started flowing into slush pit as drilling was carried to total depth of 3,505 feet, where it was shut down to run casing and test.

Leasing has increased in Fisher County, extending north over into Stonewall County where General Crude Oil Co. (Pew interests) is drilling a wildcat on the W. J. Bryan ranch, on a 2,000-acre block about 6 miles north of production in the northeastern part of Fisher County. This company has taken two other large blocks in Stonewall County, one block of some 11,000 acres on the Rayner ranch, 10 miles southeast of Aspermont, and a similar block on the J. D. Smith ranch in the southwestern part of the county.

There are several blocks in Fisher County, a couple in the northern part, which will probably be drilled soon as a result of the Rotan strike, and other blocks are being worked up in the county, the same as in Stonewall County. Marland Drake Drilling Co. has taken a block of 30,000 acres around Peacock in the western part of Stonewall County and Forest Development Corp., which recently sank a dry hole in Fisher County, has a block of 5,000 acres north of Aspermont. Another block which has seen little activity is that of W. H. Dyer of Graham, some 10,000 acres around the town of Swenson.

Marland to Drill

Governor E. W. Marland of Oklahoma, who is reentering the oil business, has staked location for a wildcat in the southern part of Haskell County, near the town of McConnell. It falls on the G. C. Carothers lands in the west half of section 67, Randolph Survey, and is to go to 2,700 feet, or 600 feet deeper than a previously abandoned test 1½ miles east, which had good oil and gas showings, but failed to make a commercial producer.

Ward Extensions

Two outpost wells in the Grand Falls area, in the southern part of Ward County, are showing for producers and extensions, although dry holes divorce one from the main part of the field. L. B. Hoss, Frank Downey and others No. 1 Mrs. A. Blair, section 5, Block 32, H.&T.C. Survey, which struck oil in the Yates sand at 2,119-30 feet, above the regular Shipley pay, logged an increase from 2,145-49 feet, the oil rising in the hole 1,700 feet. The well was shut down to run and cement pipe before testing. It is about 1½ miles south of the town of Grand Falls. Elevation is 2,433 feet.

The other prospective extension is that of Oil States Exploration Co. of Abilene on the M. L. Johnson ranch, in section 9, Block 32, H.&T.C. Survey. It topped the pay at 2,014 feet and drilled to 2,090 feet carrying 1,000 feet of oil in the hole, logging an increase in oil from 2,035-37 feet. It is 2 miles west of Grand Falls. Casing will probably be set to drill deeper, expecting lower pay around 2,200 feet.

To Deepen

L. F. White and others No. 1 Rector-Monroe, western Ward County extension in the Shipley pool, in the east corner of section 3, block 1, W.&N.W. Survey, which topped the Delaware sand at 4,670 feet, drilled to 4,700 feet and plugged back to 4,698 feet to shoot. It is estimated good for 20 bbls. per day from the Delaware sand and is to be deepened in hopes of picking up heavier saturation. The discovery, about 1¼ miles west, in the same section, was completed about three years ago, producing from the Delaware, the pay formation in the Wheat field in Loving County, about 13 miles north.

Northern Gaines County

The northern part of Gaines County is one of the most active wildcatting spots in the district with four tests going down for Amon G. Carter of Fort Worth and Continental Oil Co., short term leases causing drilling at this time. One test is especially interesting since it has encountered considerable gas and oil showings. This test, Carter and Continental Oil Co. No. 1 Wasson, in section 48, Block AX, PSL Survey, struck gas at 4,648-50 feet, an increase from 4,650-55 feet and more at 4,695-4,700 feet and 4,743 feet, oil showing from 4,795-4,810 feet. It is now drilling below 4,825 feet.

Water in Cochran

The northeastern Cochran County test of Bond & Harrison on lands of Cameron Lumber Co., in Labour 1, League 85, Greer County School Lands, about 13 miles north of the county's lone discovery well, struck sulfur water at 4,800 feet and filled 500 feet while drilling to 4,820 feet. It is drilling below 4,900 feet.

Edwards Showing Failed

The wildcat test of Dan Auld and others on the Rigsby ranch, northeastern Edwards County, which aroused interest when a good showing of oil was reported, 1 bailer per hour from 3,920-22 feet, drilled into salt water from 3,943-50 feet. The Ellenberger lime was topped at 3,874 feet. It is shut down awaiting orders at 3,952 feet. It is about 15 miles northeast of Rock Springs, in section 16, Block K, G.C.&S.F. Survey. Elevation is 2,291 feet.

Ector Ordovician

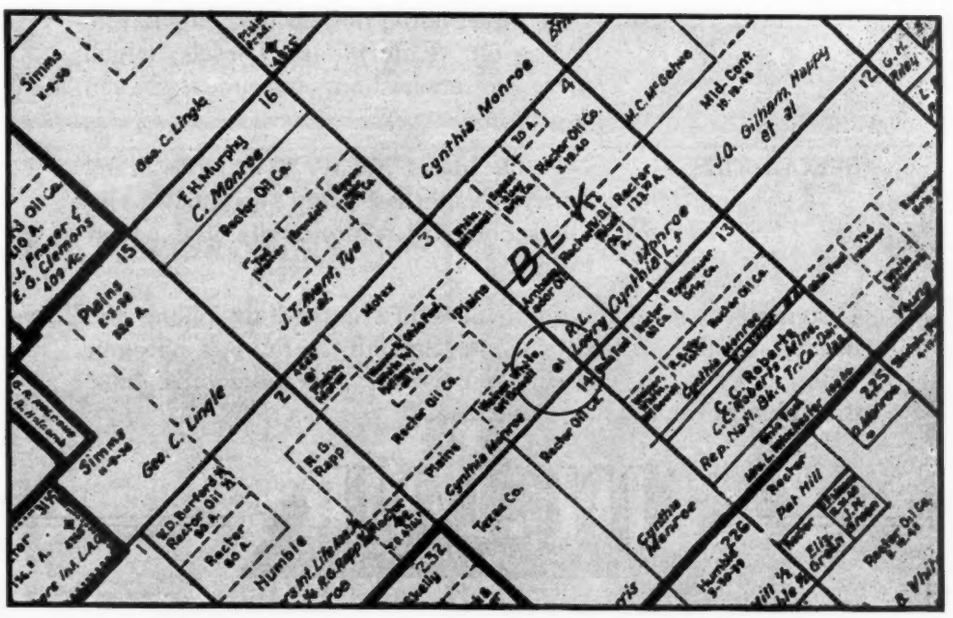
Wilcox Oil & Gas Co. recently announced proposal of drilling an Ordovician test in the northwestern corner of Crane County, about 15 miles north of Gulf Oil Corp.'s lone Ellenberger (Ordovician) producer in the Sand Hills area, and now, just across the line in southwestern Ector County, another Ordovician test, scheduled to go to 7,000 feet, is expected to be drilled on a block of 6,000 acres assembled by P. N. Wiggins of Dallas, and H. H. Lawson of San Angelo. It will be on the Leon Goodman lands in section 5, Block B-4, P.S.L. Survey, about 5 miles northwest of Prairie Home and near the western line of the county.

Runnels Test

Runnels County is getting another test with the spudding of Hall Oil Co. No. 1 Beddo, in section 51, Thompson Casey Survey, north of Ballinger, near an old gas well of Watchorn Oil & Gas Co., which is still producing. This will make the fourth test in the county, all three others drilling.

Taylor Failure

The Taylor County wildcat of Hal Hughes and others on the W. A. Manahan farm, in section 14, L. A. Lands



L. F. White and Eppenauer Drilling Co. No. 1 Rector-Monroe, in section 3, Block 1, W. and N. W. Survey, Western Ward County, is the second well in a pool that for three years has had only one producer, also in section 3

Abilene Test Abandoned

A wildcat test of Oil States Exploration Co. on the Hamby ranch, in section 1, Block 32, H.&T.C. Survey, about 5 miles southeast of Abilene, was abandoned at 2,507 feet. It was treated with acid in saturated lime logged at 1,840-53 feet, but failed to come through as a producer.

There were 52 completions reported in the West Texas district, exclusive of Jones County, which reported six, and there are no chances of development and wildcatting decreasing in the district this year, development to be increased, if anything, since Ector County is gaining in importance and activity and several other areas in different counties are increasing drilling.

WEST CENTRAL AND NORTH TEXAS

Humble Oil & Refining Co. is to make a fourth try for Ellenberger (Ordovician) production on the De La Fosse ranch, 12 miles east of Albany in eastern Shackelford County, where one test showed for a good producer, but had to be junked a couple of years ago when a pre-

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mature shot "jimmed" up the casing. Two other tests have been drilled in as many directions, both failing, and this new test is to be about 1,000 feet southeast of the first, and in section 1,550, T.E.&L. Survey. Pitzer and West of Breckenridge, who blocked the leases and sold an interest in the first well and block to Humble, have since retired from the area. Ungren & Frazier of Abilene have contract to drill this test to 4,500 feet.

Humble is also drilling No. 1 Teaff, in section 33, Block 18, T.&P. Survey, about 1 mile east of the Noodle Creek field in western Jones County, in quest of deep production. That test is to be carried to 6,000 feet. McQueen-Clevenger Drilling Co. drilling it with rotary equipment.

Hal Hughes and others are preparing to drill a 4,300-foot Ellenberger test near the town of Oplin in southwestern Callahan County, in section 350, George Hancock Survey, about 1,000 feet south of a dry Ellenberger test drilled by Hughes last year, on the Irwin

Bailey Lewis, office manager, and Art Frazier, member of the firm of Ungren & Frazier, Abilene, Tex.

ranch. A second deep test is to be drilled by the same operators, about 3½ miles north. An 8,000-acre block is held by the associates.

Coleman County

Barnett Petroleum Corp. of Dallas has purchased the producing leases of Centennial Oil Co. on the Mathews and Newton farms, near Goldsboro in northwestern Coleman County. The Mathews lease has one well averaging 30 bbls. per day and the Newton lease five wells averaging 140 bbls. per day, the wells producing from a 3,800-foot sand since 1929, 1930 and 1931. They are in the San Augustine University Lands No. 619.

Bryson Field

The Bryson field in Jack County was given a 1-mile northeast extension last week by Cockburn and others No. 1 R. R. Clayton, in the W. Smith Survey, and this week another northern extension was assured by Bryson Oil & Gas Co. (H. M. Leidecker and others) on the Padgett lands, over a half mile east of the northeast edge of the old or original Bryson field and about 1 mile north of production in the new part. It is flowing by heads from sand logged at 3,197-3,202 feet, although drilled into salt water later, which will be plugged off before completing. Both extension wells add considerable producing territory.

Panhandle District

Timms-Robinson Oil Co. (Jack Nichols) which recently extended the Dolomite pay area in southeastern Hutchinson County, is again extending that area another half mile east with No. 1 Haile in the E half section 15, Block L, E.L.R.R. Survey. It was bottomed at 2,984 feet and given a shot which bridged the hole. After cleaning out it will be given a production test

WEST TEXAS COMPLETIONS

Andrews County

George F. Getty No. 1 R. H. Lendley, 4,612-4,902 feet, plugged back to 4,690 feet, shot and acidized, 162 bbls. 8 per cent water on pump (four days' accumulation), elevation 3,219 feet. Humble Oil & Refining Co. No. 21 J. S. Means, 4,500-32 feet, acidized, 310 bbls. on pump.

Ector County

Atlantic Refining Co. No. 5 Cowden, 4,160-4,260 feet, shot, 485 bbls.; No. 2 Foster, 4,080-4,190 feet, shot, 450 bbls.; No. 2-B Rumsey, 4,165-4,280 feet, acidized, 364

bbls. Barnsdall Oil Co. No. 1 Johnson, 4,100-4,252 feet, acidized, 452 bbls. on pump. Gulf Oil Corp. No. 21 Goldsmith, 4,125-4,212 feet, acidized, 988 bbls. Humble Oil & Refining Co. No. 5 Cowden, 4,150-4,280 feet, acidized, 2,456 bbls. Landreth Oil Corp. No. 1-A Cummins, 4,189-4,238 feet, plugged back to 4,221 feet, acidized, 497 bbls. Manson Oil Co. No. 3 Cummins, 4,165-4,253 feet, shot and acidized, 296 bbls. on pump. Sinclair Prairie Oil Co. No. 4 Smith, 4,115-4,265 feet, shot, 238 bbls. Stanolind Oil & Gas Co. No. 48 Cowden, 4,070-4,290 feet, shot, 1,098 bbls.; No. 49 Cowden, 4,095-4,319 feet, shot, 1,742 bbls.; No. 1 Johnson, 4,110-97 feet, shot, acidized, 397 bbls. York and Harper No. 3 Foster, 4,026-4,199 feet, shot, 635 bbls.

Crane County

B. Fields No. 6 Gibbs, 2,294-99 feet, acidized, 780 bbls. on pump.

Glasscock County

Continental Oil Co. No. 33-S Settles, 1,250-80 feet, 469 bbls. on pump. Moore Brothers No. 3 McDowell, 2,384-2,402 feet, acidized, 1,554 bbls. on pump.

Upton County

F. Anderson and others No. 1 Elder, 2,212-32 feet, 65 bbls. on pump. Cardinal Oil Co. No. 3-A Cordova Union, 2,140-2,284 feet, acidized, 516 bbls. on pump; No. 2-B Cordova Union, dry and abandoned 2,190 feet. T. B. Knox and others No. 2 Johns-Burleson, dry and abandoned 2,350 feet.

Ward County

Amerada Petroleum Corp. No. 3 McDonald, 2,228-2,460 feet, shot, 920 bbls. Atlantic Refining Co. No. 27 Johnson, 2,460-2,540 feet, shot, 600 bbls. Black and Hedrick No. 3 White, 2,189-2,215 feet, 202 bbls. F. H. E. Oil Co. No. 5 Green, 2,219-2,450 feet, 591 bbls.; No. 7-C Richter, 2,840-2,958 feet, shot, 3,442 bbls. Jess Bigson No. 1 Carruthers, 2,075-90 feet, 253 bbls. Gulf Oil Corp. No. 24 Estes, 2,508-2,940 feet, shot, 1,391 bbls.; No. 27 Estes, 2,498-2,650 feet, shot, 1,060 bbls.; No. 28 Estes, 2,493-2,685 feet, shot, 1,720 bbls.; No. 65 Hutchins, 2,595-3,085 feet, shot, 297 bbls.; No. 77 Hutchins, 2,513-2,758 feet, shot, 1,369 bbls. Pat Hill No. 13 Clements, 2,180-2,300 feet, shot, 134 bbls. Humble Oil & Refining Co. No. 15 Richter, 2,463-2,620 feet, shot, 1,158 bbls. Standard of Texas No. 5 Hartage-Wilson, 2,364-2,525 feet, shot, 21 bbls.; No. 9-37 McFarland, 2,514-2,629 feet, shot, 2,446 bbls.; No. 10-37 McFarland, 2,491-2,650 feet, shot, 1,213 bbls. Joe A. Worsham No. 1 Reynolds, 2,170-2,216 feet, shot, 73 bbls.

Winkler County

Harry Adams and others No. 4 Sealy, 3,048-3,126 feet, 1,315 bbls. Dunnigan Brothers and others No. 1 Sealy, dry and abandoned 3,205 feet, elevation 2,737 feet. Eastland Oil Co. No. 4-A Halley, 2,740-2,823 feet, 892 bbls. Bert Fields and others No. 10 Pure-Clapp, 2,793-3,115 feet, shot, 1,551 bbls. Gulf Oil Corp. No. 40 Daugherty, 2,810-3,145 feet, shot, 718 bbls.; No. 42 Daugherty, 2,829-3,020 feet, shot, 599 bbls.; No. 17 Keystone Cattle, 3,400-3,550 feet, plugged back to 3,534 feet, 208 bbls. Illinois Oil Co. No. 16-B Central State Bank of Abilene, 2,807-3,112 feet, shot, 1,221 bbls. Magnolia Petroleum Co. No. 80 Walton, 2,748-2,940 feet, shot, 1,001 bbls. J. C. Maxwell No. 3-B Gartex N, 2,780-3,138 feet, shot, 1,295 bbls. Navarro Oil Co. No. 4 Faden, 2,740-3,070 feet, shot, 870 bbls. Weaver and others No. 3 Morton, 2,730-2,900 feet, 175 bbls. I. Rudman No. 1 fee, 2,720-3,000 feet, shot, 363 bbls.

PANHANDLE COMPLETIONS

Carson County

Panhandle Eastern Pipe Line Co. No. 1-119 Burnett, 2,330-2,633 feet, 31,000,000 feet of gas.

Hutchinson County

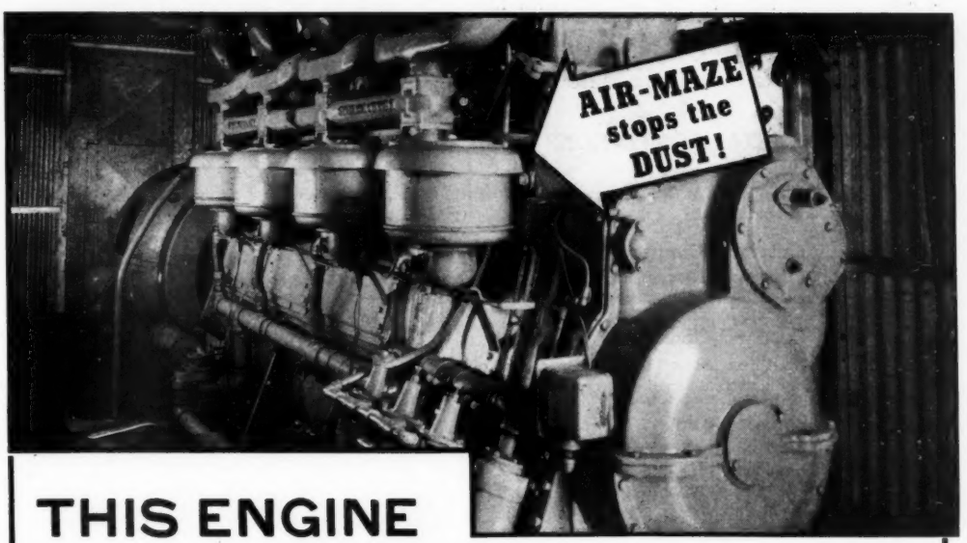
Stekoll Oil Co. No. 9-B Whittenburg, 3,001-46 feet, shot, 469 bbls. on pump.

Moore County

Panhandle Eastern Pipe Line Co. No. 1-43 Sneed, 2,575-3,150 feet, 21,300,000 feet of gas.

Gray County

F. W. Dye and others No. 3 Holmes, 3,185-3,268 feet, shot, 329 bbls. on pump. Gardner Bros. No. 6 Barrett, 3,207-3,315 feet, shot, 765 bbls. on pump. Gulf Oil Corp. No. 7-A Faulkner, 2,908-56 feet, 252 bbls. on pump. Sheil Petroleum Corp. No. 3 Haggard, 3,235-3,300 feet, 333 bbls. on pump, shot. Sinclair Prairie Oil Co. No. 2 Post, 3,182-3,285 feet, shot, 400 bbls. on pump; No. 1-A



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Merten, 3,170-3,219 feet, shot, 106 bbls. on pump, 12 hours.

Wheeler County

King Oil Co. No. 1 Lassiter, 2,196-2,255 feet, 15 bbls. on pump.

CENTRAL TEXAS COMPLETIONS

Callahan County

Mesa Verde Oil Co. No. 1 A. C. Klepper, total depth 1,882 feet, dry and abandoned.

Coleman County

Brannon & Murray No. 4 George Younglove, 1 mile northeast of Echo, 1,925-43 feet, 40 bbls.

Eastland County

L. L. Welborn No. 1 Fox, old well drilled deeper, total depth 1,720 feet, dry and abandoned.

Jones County

Danciger & Fortex No. 6 H. Dorsey, 2,227-34 feet, treated with 3,000 gallons acid, 406 bbls. per day. T.D. Humphrey No. 18-A Dorsey, 2,208-15 feet, total depth 2,216 feet, treated with 1,000 and 2,000 gallons acid, 260 bbls. per day. Lewis Production Co. No. 3 Henry Sayles, 1,970-76 feet, 277 bbls. per day. Peckham, Yates & West No. 1 Denton Co. Bank, hole full water, total depth 1,995 feet, dry and abandoned. Reeves & Campbell No. 1 Kelley, 2,184-2,226 feet, treated with 2,000 gallons acid, 4 bbls. oil and lot of water. Ungren & Frazier, Fain & McGaha No. 1 Garland, total depth 2,560 feet, dry and abandoned.

Shackelford County

W. E. Butler No. 14 Morris, sand 1,583-1,606 feet, shot, 30 bbls. Charter Oil & Gas Co. and others No. 2 Davis, 613-34 feet, shot, 15 bbls. Forest Development Co. No. 1 McKeever, northwest corner of county, total depth 1,919 feet, dry and abandoned. Healey Drilling Co. No. 1 L. J. Ackers, total depth 1,937 feet, dry and abandoned. Roeser & Pendleton No. 30 Dawson & Conway, 1,597-1,610 feet, total depth 1,916 feet, shot, 188 bbls.; No. 31 Dawson & Conway, 1,601-17 feet, total depth 1,624 feet, shot, 159 bbls.; No. 32 Dawson & Conway, 1,585-98 feet, total depth 1,605 feet, shot, 106 bbls. White & Duncan No. 6 Morris, 1,573-88 feet, shot, 50 bbls. Thomas Wittmer No. 2 H. A. Lones, 1,019 feet, dry and abandoned.

NORTH TEXAS COMPLETIONS

Archer County

L. T. Burns No. 1 Claude Cowan A, 1,017-1,108 feet, 10 bbls.; No. 1 G. F. Martin, 980-89 feet, 10 bbls. Empire Oil & Refining Co. No. 19 L. F. Wilson C, 1,802 feet, dry. N. D. Goldsmith No.1 Anna Koester, 1,092 feet, dry. S. H. Huggins and others No. 4 W. Ford B, 980-1,000 feet, 100 bbls. J. T. Miller No. 1 Kemp & Kempner, 2,004 feet, dry. Shappell Oil Co. No. 2 J. Conner, 1,133 feet, dry. Story Jack No. 2 W. J. McMurtry, 803 feet, dry. H. M. Tebay and others No. 1 Richardson, 1,242 feet, dry. The Texas Co. No. 1 J. H. Turbeville J, 1,610 feet, dry.

Baylor County

Consolidated Oil Co. No. 1 W. H. Portwood EE. 1,416-27 feet, 35 bbls.

Clay County

W. H. Gant No. 3 C. M. Worsham, 3,912-27 feet, estimated 2,500 bbls. flowing.

Cooke County

Denver Producers & Refiners Co. No. 1 W. F. Solomon, 3,542 feet, dry. Dove Oil Co. No. 12 J. A. Carr, 1,946-54 feet, 60 bbls.; No. 2 Iola Johnson, 2,551 feet, dry. H. H. Gerdes No. 2 F. Trubenbach, 1,824 feet, dry. Hudspeth and others No. 8 F. J. Trubenbach, 1,280-1,345 feet, 15 bbls. Kerlyn Oil Co. No. 1 Robert Black, 2,080 feet, dry. Kingery Bros. & Temples No. 1 J. Havercamp, 810 feet, dry. A. D. Robinson No. 7 J. M. Otto A, 797-833 feet, 10 bbls. Schermerhorn Oil Co. No. 6 Mary Kessler, 1,238-1,290 feet, 35 bbls. Seitz Comegys & Seitz No. 2 Mount, 1,502-1,655 feet, 20 bbls.; No. 21 R. W. Trew A, 1,655 feet, dry.

Jack County

Carpenter Oil Corp. No. 1 W. D. Moore, 751 feet, dry. Cato Oil Co. No. 5 J. A. Raley A, 2,977-3,045 feet, 210 bbls. Cockburn & Harper No. 1 Clayton, 2,982-3,055 feet, 405 bbls. W. J. Grisham No. 1 S. Castleberry, 3,223 feet, dry. Hill & Hill No. 1 Clayton Bros. B, 2,965-73 feet, 245 bbls. Kimberlin & Howse No. 1 H. L. King, 2,973-2,991 feet, 20 bbls.; No. 1 L. O. Moore, 2,975-92 feet, 20 bbls.; No. 1 Tabernacle, 3,009-25 feet, 20 bbls. Moncrief & Showers No. 3 S. M. Jones, 3,031-40 feet, 275 bbls. Panhandle Refining Co. No. 1 M. K. Graham, 3,360 feet, dry. O. J. Perrin No. 1 J. R. and C. P. Clayton, 3,017-43 feet, 90 bbls. Texas Plains No. 6 W. H. Terrell B, 747 feet, dry. James O. Wilson No. 1 J. A. Beasley, 2,933-60 feet, 210 bbls.

Montague County

Arco Oil Co. No. 8 Mrs. M. H. Salmon E, 1,617-35 feet, 90 bbls. Bridwell Oil Co. No. 3 F. H. Begley C, 1,760-85 feet, 26 bbls. Continental Oil Co. No. 7 Mrs. A. B. Hinton, 1,834 feet, dry. Lesh & McCall No. 17 R. W. Cunningham A, 910-70 feet, 5 bbls. Perkins & Cullum No. 4 Mrs. M. H. Salmon and others, 908-30 feet, 45 bbls. Sinclair Prairie and others No. 10 D. T. Holt, 1,692-1,730 feet, 150 bbls.

Wichita County

Bridwell Oil Co. No. 1 J. S. Bridwell, 1,989 feet, dry. G. W. Cooper No. 21 W. T. Waggoner C, 1,921 feet, dry; No. 22 W. T. Waggoner C, 1,656 feet, dry. Culbertson Co. No. 85 J. L. and T. J. Waggoner, 688 feet, dry. Douglas Producing Co. No. 31 L. P. Douglas A, 683-86 feet, 5 bbls. King Oil Co. No. 7 M. M. Stone A, 1,612-26 feet, 15 bbls.; No. 4 W. T. Waggoner R, 1,925 feet, dry. Leo Oil Co. No. 1 M. P. Fonville, 1,959 feet, dry. Tom B. Medders No. 1 W. T. Waggoner, 1,982 feet, dry. Perkins & Cullum No. 27 T. L. Burnett and others, 1,350-75 feet, 20 bbls.; No. 28 T. L. Burnett and others, 1,519-41 feet, 20 bbls. Pois & Schulz No. 1 Foster F, 1,315 feet, junked.

Young County

L. T. Burns No. 9 W. A. Rushing, 896-904 feet, 19 bbls. Butler and others No. 1 J. W. Davis, 804 feet, dry. V. E. Ekholm, trustee, No. 1 Belknap Coal, 725 feet, dry. Petroleum Producing Co. No. 11 Clara E. Luton, 663-71 feet, 10 bbls. Rathke Oil Co. No. 17 C. E. Graham, 964 feet, dry; No. 4 Wadley, 3,595-3,617 feet, 670 bbls. E. M. Remington No. 1 E. H. Remington, 500 feet, dry. W. R. Stafford No. 1 W. E. Foster, 1,043 feet, dry. The Texas Co. No. 1 A. D. Moore, 4,929 feet, dry.

Wilbarger County

Gibson & Jennings, Inc., No. 2 W. T. Waggoner, 1,272-80 feet, 35 bbls. Hamilton Petroleum Co. No. 1 R. L. Castleberry, 1,572 feet, junked. Kork Kelly and others No. 1 Waggoner F, 2,860 feet, junked. L. Webb No. 1 Waggoner J, 2,687 feet, dry.

Conference on Refinery Measurement and Control at Oil-World Expo.

Refinery Measurement and Control Committee: R. L. Mallory, Brown Instrument Co.; Prof. M. M. Heller, University of Texas; Prof. William A Cunningham, University of Texas; George A. Reid, The Refiner; M. N. Dannenbaum, M. N. Dannenbaum Co., chairman; Ed Lenzner, Oil-World Exposition, Inc.; Prof. H. E. Degler, University of Texas; W. H. Curtin, W. H. Curtin & Co., chairman of Refinery Committee; Prof. B. E. Short, University of Texas

A two days' "Conference on Refinery Measurement and Control," consisting of four sessions, will be held at the Oil-World Exposition at Houston, Tex., October 13 and 14, in the convention hall of the exposition building which will be sponsored by Rice Institute, University of Texas and A.&M. College. Professors from each university have been appointed to act as chairman of the sessions on each of the two days, and to supervise the program, adopted by the refinery committee and which is as follows:

Wednesday, October 13, morning—Measurement and Control: Refinery Processes, Natural Gasoline Plant Processes.

Wednesday, October 13, afternoon—Measurement of Flow, Measurement of Temperature: (a) Thermometry, (b) Pyrometry.

Thursday, October 14, morning—Selection of Valves for Automatic Control, Pressure Regulation.

Thursday, October 14, afternoon—Liquid Level Regulation, Temperature Control, Flow Control.

The professors from the universities are: Rice Institute—Dr. A. J. Hartsook, Chemical Engineering; J. S. Waters, Electrical Engineering; J. H. Pound, Mechanical Engineering. University of Texas—H. E. Degler, Mechanical Engineering; M. N. Heller, Mechanical Engineering; Byron E. Short, Mechanical Engineering; H. H. Power, Petroleum Production Engineering Department, will cooperate with the professors of the University of Texas. Agricultural and Mechanical College—Dr. C. C. Hedges, Chemistry and Chemical Engineering; F. F. Bishop, Petroleum Technology, Chemistry and Chemical Engineering; C. W. Crawford, Mechanical Engineering.

Central West

By STAFF CORRESPONDENT

UNEVENTFUL WEEK IN BASIN FIELDS; OHIO IS VERY ACTIVE

MATTOON, Ill., June 7.—No new oil wells were reported in the Central Basin fields in the past week, but dry holes were recorded in Marion and Clinton counties. Adams Louisiana Oil Co. had a near-completion pumping 105 bbls. per day after a shot.

Marion County

Adams Louisiana Oil Co. No. 1 Sam Pugh, NW NW section 29-4n-1e, Marion County, had the top of the Genevieve limestone at 1,528 feet, and a showing of gas at 1,534-78 feet, and drilled to 1,655 feet. The hole will be plugged back and tested in the upper horizons.

Adams Louisiana Oil Co. No. 1 Davidson, CNL SW SW SE section 21-4n-1e, had Rosaire sand at 1,594-1,602½ feet, total depth. The sand was well saturated, and will be shot.

Adams Louisiana Oil Co. made location for No. 2, SW SW SW SE section 21-4n-1e. Same company's No. 3, C NE SW SW section 21-4n-1e, was pumping 105 bbls. per day from Benoist sand at 1,401-06½ feet, after a 10-quart shot. Same company was drilling at 1,174 feet in No. 6 Merryman, CWL SE SW section 21-4n-1e. Hempen & Burgess No. 1 E. Allison, C NE NW SW section 33-4n-1e, was a hole full of water at 1,492-95 feet and abandoned. Same company's No. 1, C NW NE NW SW section 33-4n-1e, was underreaming 8-inch casing to 1,170 feet. Sunflower Oil & Gas Co. was conditioning hole at a total depth of 1,055 feet in No. 1, NE NE NW NE section 33-4n-1e. Eddington and others No. 1, NE SE SW SE section 12-4n-4e, had a small showing of oil at 1,430 feet and was shut down at 2,045 feet. Schlassberg & Sigel were drilling at 400 feet in No. 1, SW cor. SE SW section 20-2n-3e. Hempen & Burgess No. 1 Jolliff, NE NW SE section 28-4n-1e, had a hole full of water at 1,052 feet, and was drilling at 1,015 feet in No. 1 Jeff Smith, NW NW SE section 28-4n-1e. Cypress Oil & Gas Co. No. 1 Adams, C N half SW section 28-4n-1e, was drilling at 490 feet. Illinois National Oil Co. was running 6-inch casing to 1,120 feet in No. 1 City of Patoka, NE cor. SW section 28-4n-1e. Wiser Oil Co. was a hole full of water at 1,443 feet in No. 1 Seth Martin, NW SE NW section 27-4n-1e.

Clay County

Pure Oil Co. No. 1 Sarah Bechtel, NE SE NW section 33-3n-8e, was at a total depth of 320 feet with 10¾-inch pipe set at 292 feet, and rig was up for same company's No. 1 Mosely, NW NE NE section 4-2n-8e.

Bond County

Whitehead & Morey No. 1 Polland, NW SE SW section 26-6n-2w, Bond County, is drilling below 860 feet.

Clinton County

Santa Fe Oil Co. No. 3, C NE NW NW NE section 8-1n-3w, was dry and abandoned at 1,084 feet. It had a showing of oil at 1,028 feet. Same company was drilling at 840 feet in No. 1 Robbin, SE SW SE section 5-1n-3w. Timberlake Oil Co. will shoot sand at 942-57 feet in No. 1 Bergman, SE NW SW section 8-1n-3w. Ohio Oil Co. will shoot No. 3 Trane, SW SW NE NW section 8-1n-3w, which is at a total depth of 1,059 feet.

Christian County

Parshall & Graham have rig up for No. 1 York, SW SW NE section 36-15n-2w, a 3,000-foot test. Bear Creek Oil Co. was shut down at 1,040 feet with 6⅝-inch pipe set at that depth in No. 3, CNL NW SW section 29-12n-2w.

Wayne County

Pure Oil Co. No. 1 Brach, NW SW SW section 26-1n-7e, Wayne County, cemented cave at 2,938-80½ feet and the crew was waiting for cement to set. Pure Oil Co. No. 1 Stella Billington, SE SE NE section 27-1n-7e, was plugged back to 3,131 feet and 7-inch pipe recemented at 2,940 feet. Rig is up for No. 1 C. H. Billington, C SE SE SE section 27-1n-7e. Pure Oil Co. has derrick up for a test in NE NE SE section 27-1n-3e, and made location in C NW NW NW section 35-1n-7e. Lebove and others have cellar and pits dug for No. 1 McNeely, NW NW NE section 11-1s-7e.

Perry County

H. H. Forrester No. 1 fee, C W half SW NW section 5-6s-1w, Perry County, is delayed by a fishing job for a lost 4-inch bit, total depth 4,937 feet.

Lawrence County

Warren Hastings No. 1 Christensen, SE SW SW section 11-3n-12w, Lawrence County, has 500 feet of oil in the hole at a total depth of 1,844 feet and the crew was bailing. Same operator's test in C SW SW section 29-5n-10w, was abandoned at 657 feet.

Jefferson County

Dee & Carter No. 1 J. H. Hamilton, SW NW section 20-4s-3e, Jefferson County, was at a total depth of 2,725 feet. Seven-inch pipe had been run and the pipe collapsed at 2,032 feet, necessitating a delay while the crew made repairs.

Massac County

Kahle and others were conditioning the hole at a total depth of 2,830 feet in No. 1, C SW SW SW section 22-14s-3e, Massac County.

Clark County

National Consolidated Oil Co. No. 1, C NW NE NW section 21-11n-12w, Clark County, had 8-inch casing set at 1,362 feet and was shut down at 1,523 feet for repairs.

Vigo County, Indiana

In Vigo County, Indiana, Hoffmeister, Ring and others were drilling at 1,375 feet in No. 1 Earl French, NE SE NE SE section 26-10n-9w. Carter Oil Co. has cellar and pits dug for a test in C S half SE NE section 16-10n-10w. Keller Development Co. No. 1 Ben Beard, CWL NE SE section 33-11n-8w, was at a total depth of 1,882 feet. It topped what is believed to be Niagara lime at 1,741 feet.

OHIO DEVELOPMENTS

FINDLAY, Ohio, June 7.—An encouraging increase in completions and field operations in the Ohio field was apparent during the week and a comparatively large number of producers were brought in. There were 40 completions, including 15 gas wells, 9 failures and 16 producers with a total new production of 234 bbls.

The feature was the good showing of oil in a test in the new Huron County gas field. This test, drilled by Atlantic Oil Co. on the Henry Quirin property, a few miles from Olean, Ohio, struck an extensive seepage of oil in the lime formation at approximately 850 feet. It also made a large amount of gas at this depth and will be shot. Two other tests were completed from the same formation, both were small gas wells. In section 8, Hartland Township, A. C. Leathers & Co. completed the test on the E. B. Burras farm, in the Lime at 835 feet gauging 669,000 feet. In section 11, same operators completed the test on the Levi Hartell farm as a 146,000-foot gas well from the same formation at approximately the same depth. A. C. Leathers & Co. is rigged up on the L. M. Chapin property, in section 4, Hartland Township.

In the new Henry County pool, northwestern Ohio, N. L. Stevens has completed the test on the Jackson farm as a small producer. It drilled through the Trenton sand at 1,686-1,749 feet and bailed 1 bbl. naturally. A short distance away, in section 36, Harrison Township, the same operator is drilling below 800 feet on the Sampsel property, with formations running about 10 feet higher. The same operator is also moving a rig to offset the Jackson test.

In Seneca County, section 25, Liberty Township, Keiner & Co. drilled the second test on the Rufus Martin farm through the Trenton sand at 1,406-76 feet and gauged 67,000 feet after shot.

Passon & Co. abandoned the second test on the Steve Mameth farm, in Lot 56, Litchfield Township, Medina County. It was drilled through the first Clinton at 2,889-2,903 feet where it made 25,000 feet, and was completed below the second Clinton at 2,910-13 feet, which was dry.

In Summit County, section 19, Tallmadge Township, East Ohio Gas Co. abandoned the test on the Albert Wise property after drilling through the Clinton at 4,060-70 feet and 4,075-93 feet, without a show of oil or gas.

Preston Oil Co. No. 1 John Scholl, section 22, Canaan Township, Wayne County, made 25 bbls. of oil and 15,000 feet of gas.

In Licking County, section 17, Hanover Township, Pure Oil Co. No. 5 Danson Nethers was completed in the sand at 3,212-58 feet and made 100 bbls. after a time bomb. In section 3, Hopewell Township, Allen Willie completed the test on the Caldwell and Currie property as a 30-bbl. producer, below the sand at 2,927-62 feet. In section 1, Licking Township, Wehrle Gas Co. made a small show of oil at 716-23 feet on the Frank Woolard property and will drill to the lime. In section 10, McClay Brothers No. 7 Townsend Jury was completed below the sand at 2,279-88 feet and gauged 2,000 feet of gas and pumped 8 bbls. of oil after a shot of 30 quarts. In the same county, section 15, Perry Township, Preston Oil Co. No. 14 J. C. Wright was drilled through the sand at 689-702 feet and made 3 bbls. after shot. In section 6, same township, Armbruster & Stricker No. 8 Sarah Patton made 47,000 feet of gas and 2 bbls. of oil after a shot in the same formation at 742-56 feet. In section 17, George Vandergrift No. 2 T. R. Vanallen made 16,000 feet of gas from the same sand at 691-96 feet.

In Muskingum County, section 2, Licking Township, H. H. Everett Co. No. 5 Ella Gill was drilled through the Clinton at 2,906-65 feet and made 12 bbls. naturally and will be shot.

In Knox County, section 14, Clay Township, Steri Brown & Co. No. 3 Allen Rine was drilled to 760 feet and made 7 bbls. after shot. In section 10, Jackson Township, Preston Oil Co. made a good show of oil on the Lloyd Bailey farm at 3,174 feet and will shoot.

Preston Oil Co. No. 147 Sunday Creek Coal Co., section 36, Coal Township, Perry County, was completed below the sand at 3,641-93 feet and made 90,000 feet of gas and 35 bbls. of oil after a shot. In section 18, Clayton Township, Pure Oil Co. completed the test on the Martha Miller property below the Clinton sand at 3,141-76 feet and gauged 368,000 feet naturally.

In Vinton County, section 29, Brown Township, Kelch Brothers No. 5 Mary Geiger was drilled through the Berea sand at 940-45 feet without a show and abandoned. In section 3, Knox Township, Cooperative Oil & Gas Co. No. 5, on its own property, topped the Berea sand at 1,147 feet, was drilled 3 feet into the sand and made 8 bbls. naturally.

In Cuyahoga County, Lot 306, Newburg Township, National Smelting Co. No. 1 Subdivision was drilled through the Newburg at 2,553-2,606 feet and made 24 bbls. of oil naturally and will be shot.

Heilser Oil & Gas Co. No. 1 Grace Mallet, section 8, Franklin Township, Monroe County, was completed as a 2-bbl. producer after a shot of 30 quarts in the

(Continued on Page 103)

Rocky Mountain Area

By
T. R. INGRAM

LANCE CREEK DEEPER SAND PRODUCES 42 GRAVITY OIL

DENVER, Colo., June 7.—Increasing wildcat activity, a number of new operations and one important discovery marked the week in the northern Rocky Mountain area. Operations are resuming in four wells in Archuleta County, Colorado, and one new test is being started by the Hughes Estate and Continental Oil Co. New wildcat play is getting under way in central western Colorado with one well spudding and two wildcat locations. The Badito-Alamo district in Huerfano County and Bondad district in La Plata County report tests getting under way.

In Wyoming, the sensation of the week was the discovery of 42 gravity green oil in a deep horizon in the Lance Creek field more than 3 miles out from the top of the dome in a semiwildcat drilled by Ohio Oil Co. Ohio Oil Co. made a location for a deep test on Simpson Ridge in Carbon County and released a new location on Big Medicine Bow for a joint operation with California Co. Medicine Bow Oil Co. No. 1 Hintze-Government, Allen Lake district, is plugging back to the second Sundance after going into the red beds. Three new locations were released in Lance Creek.

Two completions, one a 205-bbl. well, and two new operations were reported in the Cut Bank field in Montana. The Gordon Campbell wildcat in Pondera County was abandoned. The Kevin-Sunburst field had seven completions, some better than the average, and two new operations.

Jefferson County, Nebraska, is to have a deep test near the Kansas line.

Continental Oil Co. had a failure in No. 60 Tribal on the Rattlesnake dome, northwestern New Mexico.

NEW MEXICO

There were 22 completions in the Lea County fields in New Mexico the past week.

Phillips Petroleum Co. No. 1 Mex, C NE NE section 30-20-37, had first oil at 3,730 feet, total depth 3,843 feet; was acidized with 23,000 gallons and started at 64 bbls. of oil in 10 hours.

Getty Oil Co. No. 1 State D, C SE NE section 32-20-37, first oil at 3,822 feet, total depth 3,860 feet, acidized with 4,000 gallons, and shot with 180 quarts, made 38 bbls. of oil in 16 hours.

Skelly Oil Co. No. 6 Van Etten, C NW NE section 9-20-37, first oil 3,785 feet, total depth 3,881 feet, 694 bbls. natural flow in four hours.

Amerada Petroleum Corp. No. 2 State Y, C NW SE section 17-20-37, first oil at 3,777 feet, total depth 3,855 feet, 48 bbls. first hour.

Continental Oil Co. No. 4 Britt B, C NE SE section 18-20-37, acidized with 2,000 gallons, flowed 89 bbls. in 24 hours; first oil at 3,767 feet, total depth 3,866 feet.

Phillips Petroleum Co. No. 1 Quapaw, C SE SE section 19-20-37, acidized with 24,000 gallons, and shot with 80 quarts, flowed 75 bbls. in 13 hours, first oil at 3,808 feet, total depth 3,864 feet.

The Texas Co. No. 8 Len Sanders, C NE SE NE section 20-20-37, acidized with 2,000 gallons, flowed 46 bbls. in one hour, first oil at 3,700 feet, total depth 3,856 feet.

Gulf Oil Corp. No. 2 Bell State E, C NE NW section 11-21-36, first oil at 3,750 feet, total depth 3,850 feet, acidized with 2,000 gallons; flowed 220 bbls. first four hours.

Gulf Oil Corp. No. 14 Arnott-Ramsey C, C NE SW section 21-21-36, first oil at 3,800 feet, total depth 3,890 feet, 115 bbls. in six hours.

Gulf Oil Corp. No. 2 E. King, C NW NW section 28-21-37, first oil at 3,699 feet, total depth 3,800 feet, shot with 450 quarts and acidized with 5,000 gallons, flowed 70 bbls. first day.

Skelly Oil Co. No. 4 Stecker, C NE SW section 4-22-37, first oil at 3,689 feet, total depth 3,750 feet, acidized with 2,000 gallons, 77 bbls. first day.

Humble Oil & Refining Co. No. 1 Greenwood, C SE SE section 9-22-37, first oil at 3,580 feet, total depth 3,767 feet, shot with 265 quarts and acidized with 2,000 gallons, 59 bbls. first day.

Gulf Oil Corp. No. 1 D. G. Boyd, C SW SW section 23-22-37, first oil at 3,653 feet, total depth 3,681 feet, acidized with 5,000 gallons, flowed 125 bbls. in 20 hours.

Ohio Oil Co. No. 6 McDonald-State, C SE SW section 16-22-36, first oil at 3,792 feet, total depth 3,850 feet, acidized with 3,000 gallons, flowed 55 bbls. in one hour.

Skelly Oil Co. No. 5 R. R. Simms, C SE SW section 4-23-37, shot with 320 quarts, flowed 110 bbls. the first day.

Skelly Oil Co. No. 2 G. W. Simms, C NE NE section 9-23-37, first oil at 3,520 feet, total depth 3,713 feet, shot with 310 quarts and acidized with 2,000 gallons, flowed 125 bbls. first day.

Stanolind Oil & Gas Co. No. 1 Langley A, C SW SW section 9-25-37, first oil at 3,390 feet, total depth 3,466 feet, flowed 37 bbls. the first hour.

Gulf Oil Corp. No. 1 Shahan, C NW NE section 33-25-37, first oil at 3,165 feet, total depth 3,280 feet, acidized with 1,000 gallons, flowed 478 bbls. in seven hours.

Amerada Petroleum Corp. No. 4 State D, C NE NW section 1-20-36, first oil at 3,821 feet, total depth 3,900 feet, flowed 83 bbls. in one hour.

Amerada Petroleum Corp. No. 2 State M, C NW SE section 13-20-36, first oil at 3,778 feet, total depth 3,865 feet, acidized with 5,000 gallons, flowed 11 bbls. in one hour.

Magnolia Petroleum Co. No. 1 State G, C NW NW NE section 24-17-34, first oil at 4,459 feet, total depth 4,794 feet, plugged back from 4,905 feet, shot with 580 quarts and acidized with 6,000 gallons, pumped 100 bbls. in 24 hours.

J. & L. Drilling Co. No. 1 Hurd, C SE NW section 14-11-26, Chaves County, was abandoned at 1,340 feet.

Clovis Development Co. No. 2 Wilmes, C SE NE section 17-2s-30e, Roosevelt County, was dry and abandoned at 3,677 feet. Outside of the show at 3,377-79 feet, the lime section throughout proved to be a dense mass lacking entirely in porosity. The Glorietta sand was topped at 3,607 feet and drilled through to bottom at 3,677 feet. It had salt water from top to bottom notwithstanding a rise of 47 feet over No. 1 Wilmes. The operator has reached the conclusion that any oil on this structure in the lime lays on the south flank only. The Glorietta sand is regarded as a salt water horizon on any structural position. Plans are under way to block among the various companies in the field sufficient acreage to make possible the drilling of another well to be located on the south flank to the west of No. 1 Wilmes.

Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW section 28-3n-30e, was dry and abandoned at 5,195 feet.

Monument Area

Continental Oil Co. No. 16-C-1 State, C SW NW sec. 16-20-37. T.D. 3,809 ft.; running tbg.
Gulf Oil Corp. No. 1 Bates, C SE SE sec. 26-19-36. T.D. 3,973 ft.; C.O.
Repollo Oil Co. No. 7 Barber, sec. 8-20-37. T.D. 3,840 ft.; preparing to run csg.
Gulf Oil Corp. No. 8 Ramsey, sec. 17-20-37. Drlg. 560 ft.
Gulf Oil Corp. No. 3 White, sec. 25-20-36. Drlg. 1,897 ft.
Phillips Pet. Co. No. 2 Hobbs, sec. 18-20-37. Drlg. 2,985 ft.
Phillips Pet. Co. No. 3 Mexico, sec. 18-20-37. T.D. 3,850 ft.; flowed 75 bbls. per hour.
Atlantic Prod. Co. No. 1-O State, sec. 32-20-37. Drlg. 3,435 ft.
Empire O. & R. Co. No. 1 Persons, sec. 27-19-36. Rig.
Skelly Oil Co. No. 5 Van Etten, sec. 9-20-37. Drlg. 3,438 ft.
Continental Oil Co. No. 17-A-4 State, C NE SW sec. 17-19-37. T.D. 4,004 ft.; will run tbg.
Amerada Pet. Corp. No. 3 Laughlin, C NW NE sec. 9-20-37. Drlg. 2,914 ft.
Continental Oil Co. No. 18-B-5 Britt, C SW SW sec. 18-20-37. T.D. 245 ft.; running csg.
Continental Oil Co. No. 11-A-5 Sanderson, NE SE SW sec. 11-20-36. T.D. 3,880 ft.; flowing 20 bbls. per hour.
Ohio Oil Co. No. 2 State-Hansen, C W½ SW NE sec. 16-20-37. R.U.R.
Amerada Pet. Corp. No. 4-T State, sec. 25-19-36. T.D. 4,055 ft.; tstg.
Amerada Pet. Corp. No. 2-B Weir, sec. 25-19-36. Drlg. 3,525 ft.
Gulf Oil Corp. No. 4-F Bell-State, sec. 36-20-36. Drk.
Repollo Oil Co. No. 5 Byrd, sec. 11-20-36. Drlg. 3,090 ft.
Phillips Pet. Co. No. 3 Hobbs, SW sec. 18-20-37. T.D. 1,091 ft.; set 9⅝-in. 1,074 ft.
Amerada Pet. Corp. No. 2-Q State, SE sec. 16-20-37. Drlg. 2,985 ft.
Texas Co. No. 3 Sanders, SE sec. 18-19-37. Drlg. 3,852 ft.
Texas Co. No. 10 Lieu Lands, NW sec. 19-20-37. Drlg. 3,720 ft.
Sun Oil Co. No. 1 Barr, SW sec. 24-19-38. Drk.
Tide Water Oil Co. No. 2-T State, C NW NW sec. 17-19-37. Drlg. 3,405 ft.
Gulf Oil Corp. No. 5 White, C NE NE sec. 25-20-36. Set 5½-in. csg. 3,730 ft.
Gulf Oil Corp. No. 5-F Bell, C SW SW sec. 36-20-36. Drlg. 3,705 ft.
Atlantic Ref. Co. No. 2-O State, NW sec. 32-20-37. Loc.
Gulf Oil Corp. No. 1 Butler, SE sec. 19-20-37. Cellar and pits.
Stanolind O. & G. Co. No. 2-A Gilluly, NE sec. 25-20-36. T.D. 3,780 ft.; set 7-in. csg.
Tide Water Oil Co. No. 1-K State, SW sec. 13-20-36. Loc.
Repollo Oil Co. No. 4-B Phillips, NW SW NW sec. 31-19-37. Digging cellar.
Shell Pet. Corp. No. 3-E State, C SE NW sec. 13-20-36. Loc.
Humble O. & R. Co. No. 1 Fopeano, C SE SW sec. 25-20-36. Cellar, pits.

Chaves County

English & Harmon No. 1 Billingslea, SE sec. 9-15-29. T.D. 2,695 ft.; set csg.

Eunice Area

Jim Murray No. 4 State-Wallace, sec. 3-21-36. Cellar.
Gulf Oil Corp. No. 1 Bell-Ramsey B, C SW SW sec. 29-20-37. Cleaning out 3,790 ft.; 75 ft. oil in hole.
Tide Water Associated Oil Co. No. 1 Marshall, C SW NE sec. 13-21-36. T.D. 4,005 ft.; P.B. 3,770 ft.; S.D.
Devonian Oil Co. No. 2 State, SE sec. 3-21-36. T.D. 3,843 ft.; P.B. 3,840 ft.; pumped 39 bbls. oil and wtr.
Humble O. & R. Co. No. 1-G State, sec. 23-21-36. T.D. 3,860 ft.; flowed 27 bbls. in 2 hrs.
Gulf Oil Corp. No. 4 Campbell, sec. 7-21-36. Drlg. 3,110 ft.
Empire O. & R. Co. No. 1-G State, sec. 2-21-36. T.D. 3,900 ft.; tstg.
Gulf Oil Corp. No. 5 Collins, sec. 14-21-36. Drlg. 2,720 ft.
Gulf Oil Corp. No. 8-C Orcutt, sec. 6-21-36. T.D. 3,740 ft.; trying to kill gas.
Stanolind O. & G. Co. No. 1 McQuatters, sec. 11-21-36. T.D. 3,847 ft.; tstg.
Humble O. & R. Co. No. 2-G State, C NE NW sec. 23-21-36. Drk.
Stanolind O. & G. Co. No. 1 Hill, C Lot 16, sec. 5-21-36. Drk.
Republic Prod. Co. No. 1 State, SE sec. 12-21-35. Drlg. 3,100 ft.
Magnolia Pet. Co. No. 4 Carson, SW sec. 28-21-37. T.D. 1,350 ft.; W.O.S.T.
Gulf Oil Corp. No. 3 King, NW sec. 28-21-37. R.U.
Stanolind O. & G. Co. No. 2 McQuatters, C NW NE sec. 11-21-36. Moving in.
Continental Oil Co. No. B-30-1 Lockhart, C SE SW sec. 30-21-36. C.&P.

Dona Ana County

Juels C. Bertrand No. 1 Casad Permit, sec. 24-26-5e. T.D. 47 ft.; S.D.O.

Hobbs Area

Stanolind O. & G. Co. No. 8 Terry, C NW SE sec. 9-19-38. Loc.

Sims Area

J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 3,746 ft.; testing.
Gulf Oil Corp. No. 1 Davis, sec. 8-23-27. Drlg. 3,605 ft.
J. E. Farrell No. 2-B Walden, C NE SW sec. 15-22-37. T.D. 3,460 ft.; running 7-in. csg.
J. E. Farrell No. 2-C Walden, C SE SW sec. 15-22-37. T.D. 3,550 ft.; fishing.
Empire O. & R. Co. No. 2 Walden, sec. 21-22-37. Drlg. 3,381 ft.
Skelly Oil Co. No. 5 R. R. Sims, sec. 3-23-37. Drlg. 2,911 ft.
Tide Water Oil Co. No. 3 Walden, sec. 21-22-37. Drlg. 3,350 ft.
Continental Oil Co. No. 21-A-2 Elliott, C SW SE sec. 21-22-37. T.D. 3,555 ft.; testing.
Skelly Oil Co. No. 3 R. R. Sims, sec. 4-23-37. T.D. 3,670 ft.; C.O.
Amerada Pet. Corp. No. 1 Corrigan, SW SW NE sec. 4-22-37. Drlg. 229 ft.
Rowan Drilling Co. No. 1 Walden, C NW NW sec. 15-22-37. Drlg. 1,845 ft.
Gulf Oil Corp. No. 1 Baker, C SE SE sec. 5-22-37. Drlg. 1,090 ft.
Skelly Oil Co. No. 3 H. O. Simms, NW sec. 3-23-37. Drlg. 1,070 ft.
Rowan Drlg. Co. No. 1-A Elliott, SW sec. 27-22-37. Cellar and pits.
Gulf Oil Corp. No. 1 Monda, C SE SW sec. 21-22-37. Spudded.
W. H. Street No. 2 Wood, C SW NE sec. 22-22-37. R.U. machine.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-26. T.D. 3,514 ft.; S.D. for orders.

Lea County—Miscellaneous

Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 4,397 ft.; P.B. 4,386 ft.; testing.

Amon G. Carter No. 2 Elliott, C NE SW sec. 22-22-37. T.D. 3,622 ft.; C.O.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 24-17-34. T.D. 4,905 ft.; P.B. 4,794 ft.; C.O.; shot at 4,615-72 ft.
Continental Oil Co. No. 1 Wantz, C SW SW sec. 21-21-37. T.D. 3,872 ft.; running tubing.
Samedan Oil Co. No. 3 Hughes, sec. 4-23-27. T.D. 3,631 ft.; flowed 25 bbls. per day.
Gulf Oil Corp. No. 1 Hardy, C SE SW sec. 20-21-37. T.D. 3,810 ft.; testing.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-25-37. Drlg. 2,984 ft.
Herschback et al No. 1 Alston, C SW NE sec. 31-17-37. Drlg. 4,825 ft.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 3,870 ft.; C.O.
Stanolind O. & G. Co. No. 2 Meyers, SW sec. 4-24-37. Drlg. 3,498 ft.
Stanolind O. & G. Co. No. 3 Meyers, SE sec. 4-24-37. Drk.
Gulf Oil Corp. No. 1 Boyd, sec. 23-22-37. T.D. 3,681 ft.; testing.
Gulf Oil Corp. No. 2 King, sec. 28-21-37. T.D. 3,800 ft.; testing.
Maljamar O. & G. Co. No. 3 Mitchell, C SE NE sec. 20-17-32. Drlg. 812 ft.
Texas Co. No. 1 Fristoe, C SW NW sec. 35-24-37. T.D. 3,501 ft.; set 7-in. 3,272 ft.
Magnolia Pet. Co. No. 1 Hanna, sec. 7-26-38. Wildcat; drlg. 2,870 ft.
Empire O. & R. Co. No. 3-A Closson, sec. 6-22-36. Drlg. 3,605 ft.
Gulf Oil Corp. No. 1 Knight, sec. 27-24-37. Drlg. 2,387 ft.
Harry Leonard No. 1 Siddall, sec. 6-20-38. T.D. 4,212 ft.; H.F.W.; abd.
Shell Pet. Corp. and Devonian Oil Co. No. 2 Christmas, sec. 21-22-36. Testing at 3,838 ft.
Landreth Prod. Co. No. 2 Grizzell, sec. 5-22-37. Drlg. 2,340 ft.
Magnolia Pet. Co. No. 3 Cary, sec. 21-22-37. Drlg. 2,055 ft.
Repollo Oil Co. No. 1 Fowler, sec. 9-24-37. Drlg. 3,332 ft.
El Paso Natural Gas Co. No. 1 Camp, C SW SW sec. 6-24-37. Drlg. 3,553 ft.
Schermerhorn Oil Co. No. 1 Woolworth, C NW NE sec. 28-24-37. Drlg. 2,975 ft.
Gulf Oil Corp. No. 1 Westfall, SE SW SE sec. 15-25-37. T.D. 3,278 ft.; running csg.
Continental Oil Co. No. 1 Burger, C NW SW sec. 19-20-38. Drlg. 3,725 ft.
Culbertson-Irwin et al No. 1 Moseley, SE NE SW sec. 34-24-37. Drlg. 1,065 ft.
Continental Oil Co. No. 1-A-15 Cline, NW sec. 15-23-37. Wildcat; T.D. 1,225 ft.; set 7-in. csg.
Repollo Oil Co. No. 2 Christmas, sec. 28-22-37. T.D. 250 ft.; set 12½-in. 244 ft.
Repollo Oil Co. No. 1 Turner, sec. 29-21-37. Drlg. 418 ft.
Shell Pet. Corp. No. 1 Rinewalt, NW sec. 4-22-37. Drlg. 2,150 ft.
F. J. Danglade No. 1 Christmas, C SE NE sec. 5-22-37. Drlg. 3,220 ft.
Devonian Oil Co. No. 2 Christmas, SE sec. 28-22-37. Cellar and pits.
Devonian Oil Co. No. 3 Christmas, C SW SE sec. 28-22-37. Cellar and pits.
Magnolia Pet. Co. No. 4 Cary, C SW SW sec. 21-22-37. Derrick.
Texas Pacific Coal & Oil Co. No. 4-A State, C SW SW sec. 9-22-36. Cellar and pits.
Texas Co. No. 2-A Rhoades, SE NW SE sec. 22-26-37. Rigging up rotary.
Stanolind O. & G. Co. No. 1 Turner, C NW NW sec. 20-20-38. T.D. 306 ft.; set 12½-in. 304 ft.
Ajax Drlg. Corp. No. 1 Lanehart, SW sec. 21-25-37. Rigging up machine.
Culbertson & Irwin No. 1 Boesche, NE sec. 2-21-32. Wildcat; location.
Gulf Oil Corp. No. 2 Westfall, SE sec. 15-25-37. Derrick.
Jal Natural Gas Corp. No. 2 Justis, NE sec. 20-25-37. Moving in material.
Mid-Continent Pet. Corp. No. 2 Greer, NW sec. 21-22-36. Cellar and pits.
Plains Prod. Co. No. 1 Humphreys, NE sec. 3-25-37. Loc.
Texas Co. No. 2 Lea, NE sec. 15-20-34. Loc.
Tide Water Oil Co. No. 1 Day, C NE NW sec. 6-22-36. Loc.
Continental Oil Co. No. A-5-2 Farney, C NE SE sec. 5-23-36. Loc.
Western Gas Co. No. 3 Harrison, C NW SW sec. 20-24-37. Loc.
Repollo Oil Co. No. 3 Jamison, SW NE NE sec. 21-24-37. M.I.M.
Sun Oil Co. No. 3 Stuart, C NE NE sec. 15-25-37. Cellar and pits.
Shell Pet. Corp. No. 4-M State, C Lot 15, sec. 1-21-35. Cellar and pits.
Ohio Oil Co. No. 2 Turner, SW NW SE sec. 29-21-37. Cellar and pits.

Eddy County

Adams et al No. 1 Page, sec. 15-21-28. Wildcat; T.D. 100 ft.; S.D.O.
Republic Prod. Co. No. 7 Russell A, NW SE NW sec. 18-17-31. T.D. 3,535 ft.; testing.
Barnsdall Oil Co. No. 5 Dodd, sec. 22-17-29. T.D. 2,757 ft.; P.B. 2,730 ft.; shot 2,580-2,730 ft.; est. 60 bbls.
Flint Prod. Co. No. 1-B State, SE sec. 20-17-30. Drlg. 3,695 ft.
Murchison No. 1-B State, SE sec. 16-17-30. Drlg. 3,700 ft.
Carper Drlg. No. 2 Gissler, NW sec. 23-17-30. Loc.
Repollo Oil Co. No. 1-D Parke, sec. 15-17-30. Drlg. 2,680 ft.
Flynn, Welch, Inc., No. 1-B Stevens, sec. 13-17-30. T.D. 3,010 ft.; set 5½-in. csg. 3,009 ft.
Neil Wills et al No. 1 Stovall-Wood, sec. 20-20-30. T.D. 1,435 ft.; swb. 125 bbls. oil daily.
Carlsbad Oil Co. No. 1 Pecos Irrigation, C NE SE sec. 15-25-28. T.D. 576 ft.
Barnsdall Oil Co. No. 6 Dodd, sec. 22-17-29. Drlg. 2,475 ft.
Grayburg Oil Co. No. 3 Keely, SE NE NE sec. 24-17-29. Drlg. 2,154 ft.
F. W. & Y. Oil Co. No. 3 Jackson, C NW SE sec. 13-17-30. T.D. 575 ft.; showing water.
F. W. & Y. Oil Co. No. 4 Gissler, C SE SE sec. 14-17-30. Drlg. 2,230 ft.
F. W. & Y. Oil Co. No. 5 Gissler, C NE SE sec. 14-17-30. Drlg. 1,598 ft.
Harry Leonard No. 10 State, SE SW SW sec. 27-17-29. Drlg. 1,990 ft.
Fred Brainerd No. 2 Brainerd, sec. 5-18-27. M.I.M.
W. A. Nichols No. 1 Johnson, NE sec. 35-16-21. Wildcat; R.U.M.
F. E. Baker No. 4 Eddy, NE sec. 12-22-27. T.D. 55 ft.; M.I.M.
Alscott Oil Co. No. 1 Goodale, SW NW SE sec. 30-18-29. M.I.M.
H. & W. Drlg. Co. No. 1 Danford, C SE SE sec. 9-22-29. M.I.M.
Neil H. Wills et al No. 1 Morris Hoover, C SW NW sec. 20-20-37. M.I.M.
Franklin Pet. Corp. No. 1 Nelson, NW sec. 4-18-30. Wildcat; spudded.
Pool Oil & Gas Co. No. 1 Reed, SW sec. 28-24-28. Wildcat; spudded.
F. W. & Y. Oil Co. No. 4-A Jackson, NE sec. 13-17-30. Loc.
F. W. & Y. Oil Co. No. 3-X Jackson, SE sec. 13-17-30. Loc.
F. W. & Y. Oil Co. No. 2-A Stevens, C NW SW sec. 13-17-30. Loc.

Roosevelt County

Dummit Oil Co. No. 1 Todd, SE SE sec. 34-3n-29. T.D. 656 ft.; S.D.

Otero County

George Muldey No. 1 State, SW cor. sec. 11-25-8e. T.D. 263 ft.; S.D.
Fred Turner No. 1 Hattie Evans, NW NW SW sec. 22-14-12. O.W.D.D.; wildcat; drlg. 2,340 ft.

Curry County

Bond & Harrson No. 1 Hart Ranch, C NW SE sec. 13-2n-31. T.D. 1,246 ft.; W.O.S.T.

McKinley County

S. Dysart No. 1 Government, NE sec. 14-14-10w. T.D. 1,390 ft.; fishing.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. Drlg. 3,200 ft.

San Juan County

Continental Oil Co. No. 60 Tribal, NW NW NE section 2-29n-19w, Rattlesnake pool, was abandoned at 782 feet. It had water in sand at 779-82 feet.

Continental Oil Co. No. 61 Tribal, C S½ SE sec. 35-30n-19w. R.U. (first report).
Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. S.D. at 370 ft.
Jack Amenda No. 4 Hart, NW NE SW sec. 25-30n-12w. Drlg. 1,785 ft.

Socorro County

R. Allen Brown, Tr., No. 1 Belen Grant, SE NW sec. 16-2n-1e. Bldg. rig.

Valencia County

C. A. Grober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. S.D. 440 ft. in lime.

COLORADO

Archuleta County

Operations are being resumed in the Archuleta County area following the winter shutdown. The most im-

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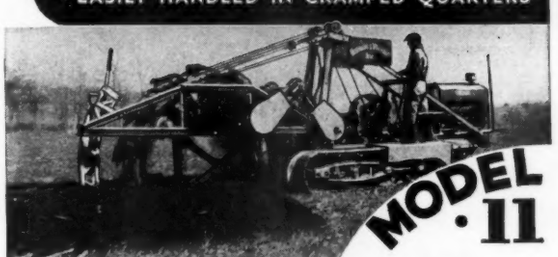

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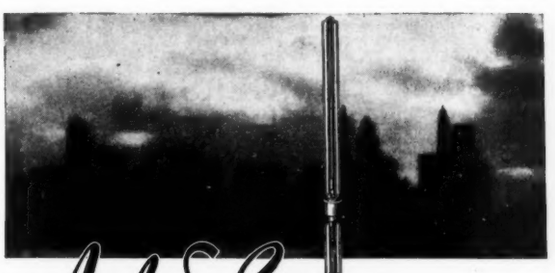
This specially designed Buckeye trailer is for quick and easy transportation of the Model 11. The ditcher climbs onto the trailer under its own power, fully assembled.

THE BUCKEYE TRACTION DITCHER CO., FINDLAY, OHIO



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LAYNE PUMPS
WELL WATER SYSTEMS

portant is a wildcat to be drilled jointly by the William E. Hughes Estate and Continental Oil Co. Location has been made on the Thomas Burns ranch on unsurveyed land just north of the New Mexico boundary and southeast of the Gramps No. 1 pool, operated by Hughes Estate, last named being in section 24-33n-2e. This is on what will be known as the Gramps No. 2 structure. Machine is being moved in. Hughes Estate will be in charge of the drilling. Movement of oil from the Gramps No. 1 pool by way of pipe line to Chama and by tankcars over the Denver & Rio Grande Western Railroad to the Continental refinery at Denver is under way. Shipments average around 1,000 bbls. per day.

The other drilling is wildcat and is mostly to the west and southwest of the Gramps No. 1 pool.

Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, SW SE SW sec. 24-33n-2e. Resumed at 1,185 ft. in first Dakota to go to Lakota.
K. L. Kendrick No. 1 Crowley, sec. 2-32n-1e. Resumed at 1,167 ft. in Morrison to go to Sundance.
Cortez Oil Co. No. 1-A Crowley, NW SE NE sec. 2-32n-2e. Crew on ground to resume at 100 ft.
Oil City Pet. Co. No. 1-A Garnett, NE NW SW sec. 25-33n-2e. C.O. at 1,515 ft. to go to Lakota.

Elmer J. Fisher is moving in materials for a test on the Coal Creek dome, approximately in section 1-35n-1w.

Adams County

Glenridge Oil Co. No. 1 Hills, SE SE SE sec. 27-3s-64w. T.D. 4,345 ft.; pipe recovered; W.O. new string.

Bent County

Indian Territory Illuminating Oil Co. and Olson Drlg. Co. No. 1 Arbes, C Lot 2, sec. 2-21s-48w. Will not start before June 15.

Boulder County

Boulder Prod. & Dev. Co. No. 1 Harlow Est., SE NE sec. 36-2n-71w. Drlg. 475 ft.

Cheyenne County

Brittel Oil, Inc., No. 1 Seip, C NE SW sec. 26-12s-47w. Cmtd. 18-in. at 100 ft.; drlg. ahead, daylight only.

Garfield County

Another Colorado wildcat play on which preliminary work has been quietly under way for some time is reaching the drilling stage. The area is in the central western part of the state mostly in Garfield, Eagle and Pitkin counties. It is in a large natural basin where no testing has been done, but where nearly a dozen structures have been mapped. Unlike the play farther north in northern Moffat County, where sands in beds of Tertiary age are the objectives, tests in the new district will have for their objective formations of Pennsylvanian age down to the Pre-Cambrian rocks.

The first test under way is on the Roaring Fork structure southeast of Glenwood Springs where Roaring Fork Oil Co. has set surface pipe and shut down to complete rigging. Location is not yet available, but it is either in the NW NW section 31-7s-87w, or SE NE section 36-7s-88w. This company is a Colorado corporation with Joe T. Juhan, of Glenwood Springs, president: R. H. Johnston, of Los Angeles and Denver, vice president, and A. E. P. Bradley, of Denver, secretary and treasurer.

To the northeast in Township 5s-85w, Western Geophysical Corp. has completed a survey to make a location for Stanolind Oil & Gas Co. on the Cedar Creek dome. In this same general area another company has completed arrangements for drilling, but is waiting for the final location to be made. This is on the Coal Basin structure.

The men behind Roaring Fork Oil Co. have been engaged for several years in mapping and leasing in Garfield and Pitkin counties and have about 43,000 acres blocked up on several structures. Detail geological reports have been completed on the Cattle Creek, Roaring Fork and Snowmass anticlines by H. W. C. Prommel and W. J. Hendrickson, of Denver. Prommel's report describes the Roaring Fork anticline along the Roaring Fork and Crystal rivers in Townships 7s-87w and 8s-88w. Rocks exposed at the surface vary in age from Quarternary to Pennsylvanian. The structure is developed along a regional northwest-southeast trending line of folding occupying the western flank of a geosynclinal basin of Pennsylvanian and older rocks, contemporaneous with the Paradox Basin of southwestern Colorado and southeastern Utah, but separated from the latter by the Uncompahgre-St. Luis Highland. A 2,000-foot test will carry the hole into the Pre-Cambrian.

The Cattle Creek anticline is 8 miles southeast of Glenwood Springs, and the Snowmass anticline is in Townships 8s-85w and 9s-86w.

Huerfano County

S. W. Pressey is moving in materials on the Badito-Alamo dome in his No. 2 Alamo a little more than 6 miles from the first well drilled a number of years ago by the Parker Club, Inc. in section 4-28s-68w. This well had shows of oil in the Lakota at 4,115 feet, but hole was junked. Pressey has taken over a large block in that area.

S. W. Pressey No. 2 Alamo, C SW SE sec. 3-27s-68w. M.I.M. (first report).
S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-60w. Drlg. 3,350 ft. after lowering 5⅞-in. to bttm. to S.O. cavings caused by gas; Dakota expected 3,900 ft.

Kiowa County

Morgan & Flynn et al No. 1, C NW SE sec. 6-20s-46w. Rig timbers on ground.

La Plata County

Nick Spatter has spudded in the Bondad district, 6 miles north of the New Mexico line and 18 miles south of Durango in his No. 1 Bryce. Well starts in a 12-inch hole and will be drilled with cable tools to about 1,800 feet.

Nick Spatter No. 1 Bryce, SE SW SW sec. 31-33n-9w. Spd. May 22 (first report).

Larimer County

Great West O. & G. Co. No. 1 Haworth, C SW SE sec. 16-4n-69w. R.U.C.T.
L. D. Charboneau et al No. 1 Thompson, C NE sec. 12-4n-70w. Drlg. 153 ft.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW sec. 11-2n-81w. T.D. 1,997 ft.; resuming.

Lincoln County

Consolidated Smelting & Metals Corp. No. 1 Hancock, NE NE SW sec. 7-17s-52w. S.D. 2,450 ft. for engine repairs.

Moffat County

Mountain Fuel Supply Co. No. 1 Donnell, a half mile northwest of the nearest producer on the Powder Wash structure, cored sand at around 4,800 feet and found gas, but no oil, and is drilling to the horizon at 5,000 feet which made 35 bbls. per hour in No. 1 Stewart. It is reported that when this well is completed rig will be moved about 15 miles northeast for a test on the Cherokee Ridge anticline. It is drilling water wells.

The lease and wildcat play in this general area is

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SUCKER-ROD HANGERS

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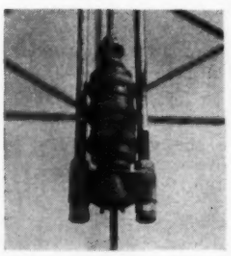
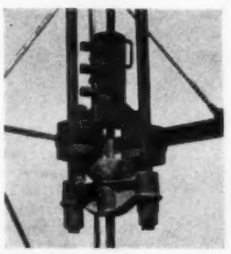
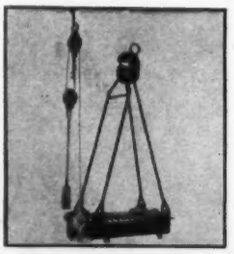
TECO Pull-Rod Shock Absorber used on Rod Lines to Protect Geared Powers from Shock loads.



Triple No. 8 TECO Shock Absorber on a 6500-foot Oklahoma City well.



TECO Tandem Shock Absorber used on heavy Kansas wells during potential tests at 35-40 S.P.M.



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increasing in activity and several geophysical crews are working in the territory extending over into the Red Desert country in Sweetwater County, Wyoming. Important meetings have been held in Rock Springs and Rawlins in the past week or two attended by operators from California and local people. S. Marvin James, who with his associates controls more than 65,000 acres in this area, flew from California to complete negotiations which call for several tests in the Baggs district. Indian Petroleum Co., of which Charles W. Bowen is president, has taken an interest with Universal Consolidated Oil Co. and Italo Petroleum Corp. in their test in the Powder Wash district. These concerns have let contract to Midwest Drilling Co. and are moving in rotary from California. Seven or eight test wells in this area are considered practically certain this summer, exclusive of those under way.

Universal Consol. O. Co. and Italo Pet. Corp. No. 1 Wanner-Govt., C SE NE sec. 36-12n-98w. M.I. rotary, and drlg. W.W.
Morapas Pet. Co. No. 1 Coles, SW SW SE sec. 1-3n-92w. Drlg. 1,150 ft.; good S.G. in shale in 4 horizons between 950 and 1,025 ft.
Mountain Fuel Supply Co. No. 1 Donnell, C SE NE sec. 31-12n-97w. Drlg. 4,877 ft. in Lower Wasatch.
Anderson-Kerr Drlg. Co. et al No. 1 Denise, C SE SE sec. 19-9n-99w. Drlg. 2,500 ft.; carrying 10-in.
Anderson-Kerr Drlg. Co. No. 1 Marrs, C SE NE sec. 17-11n-100w. M.I. rotary dk. and tools.
Texas Co. No. 4 Iles Inv. Co., Lot 7, sec. 23-4n-92w, Iles field. Spdg. 60 ft.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. T.D. 1,718 ft.; W.O. shooter.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75w. T.D. 4,567 ft.; sidetrkg. at 4,380 ft.

WYOMING

Albany County

Murphy Oil Co. No. 7 Holst, NE NE SE sec. 13-17n-77w. Drlg. 2,934 ft. in sh.
Hal Blakeman No. 1 Chapple, C NE NW sec. 33-21n-76w. T.D. 1,681 ft.; installing heavier equip.
Murphy Oil Co. No. 1 Holst-Woolf, NW NW NW sec. 19-17n-76w. T.D. 4,067 ft.; tstg. Dakota through perforated 7-in.
Murphy Oil Co. No. 4 Wilson, NW NW SW sec. 18-17n-76w. Bldg. rig (first report).

Big Horn County

Ohio Oil Co. No. 2 Byron-Baker, SW NW sec. 23-56n-97w. R.U.R.
Stock Oil Co. No. 1 Stock-Jones, SE cor. sec. 52-56n-97w. Drlg. 1,506 ft.
Ohio Oil Co. No. 1 Pryde, C SW SE sec. 24-56n-97w. Drlg. 2,269 ft.
Ohio Oil Co. No. 1 Smith, NE cor. Lot 61, sec. 33-56n-97w. Drlg. 3,301 ft.; top red beds 2,680 ft.
Woods-Callahan Oil Co., Ltd., and Wyoming O. & R. Co. No. 1 Evans, NE NE NW sec. 12-44n-91w. M.I. rot. rig from California.

Campbell County

G. J. Sherin et al No. 1 Rodes, NE SE SW sec. 24-49n-74w. Drlg. 500 ft.

Carbon County

Ohio Oil Co. has released a location for an important test on the Simpson Ridge anticline in No. 1 Union Pacific, C NW NW sec. 20-21n-80w. This structure produced oil for several years from a sand in the base of the Mesa Verde in seven wells in section 20. It has long been favorably regarded for possibilities in the Lower Cretaceous beds. Twelve years ago producers & Refiners Corp. drilled to 6,931 feet one-fourth of a mile east of the Ohio location. It had dry sands at 5,220-50 and 5,305-5,413 feet and was abandoned, but some geologists expressed the belief these were not the Wall Creek sands.

Ohio Oil Co. No. 6 Diamond Cattle, NW NW section 35-20n-78w, Rock Creek field, deepened from the Lakota at 2,932 feet, where it made 2,040 bbls. initially, to the Sundance, found water in that horizon at 3,334 feet, total depth. It was plugged back to the Lakota and recompleted for repressuring purposes. It about marks the limits of Sundance production on the northeast.

Medicine Bow Oil Co. No. 1 Hintze-Government, on the East Allen Lake dome, which marked a 4-mile extension of the gas area when it made 25,000,000 feet per day from the Upper Sundance at 2,035-58 feet, was deepened to 2,347 feet in the red beds and has plugged back to the Lower Sundance, where it tested 5,000,000 feet. It was shot with 40 quarts at 2,140-80 feet and is testing.

Ohio Oil Co. and California Co. have made a location for their No. 5 Cronberg-Union Pacific on the Big Medicine Bow structure. It is a north offset to their No. 1 Union Pacific and an inside well.

Ohio Oil Co.-California Co. No. 5 Cronberg-U. P., C NW NW sec. 25-21n-79w. Bldg. rig (first report).
Ohio Oil Co. No. 1 Union Pacific, C NW NW sec. 20-21n-80w. Bldg. road (first report).
Ohio Oil Co.-California Co. No. 3-A Kyle, C SW NE sec. 26-21n-79w. R.U.R.
Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78w. T.D. 2,347 ft.; P.B. to second Sundance at 2,140-80 ft.; shot 40 qts.; tstg.
Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. T.D. 5,617 ft.; P.B. to 5,455 ft.; W.O.C.
Ohio Oil Co.-Medicine Bow Oil Co. No. 1 U. P.-Wister, C NW SW sec. 17-22n-78w. M.I. tools.
Ohio Oil Co. No. 8 Dixon, SE NE SE sec. 34-20n-78w. Drlg. 4,165 ft.; top red beds 3,585 ft.

Converse County

Elbe Oil Ld. & Dev. Co. No. 1 Benham, NW NE sec. 5-31-70w. M.I.M.; (first report).
Tom Carney No. 1 Beaver, SE SE SW sec. 28-35n-68w. M.I.M.
Chadron-Osage Oil Co. No. 1 State, SW cor. sec. 16-32n-69w. Drlg. 3,525 ft.
Wyoming-Southern Oil Co. No. 1 Evert, NW NW SW sec. 26-32n-69w. Drlg. 495 ft.; prep. to run prod. string.

Fremont County

H. Kenyon Burch No. 1 Enos, CEL NE NE sec. 28-3n-1w. T.D. 900 ft.; W.O. csg.
Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. M.I.M. to test Frontier at 600 ft.; 1½ mi. E of Pilot Butte wells.

Johnson County

Carter Oil Co. No. 3 Rider, C NW SE sec. 17-48n-82w. Drlg. 2,065 ft.; 13⅜-in. cmtd. 1,013 ft.

Lincoln County

H. M. Eller et al No. 4 Govt., SE NW SW sec. 32-19n-116w. T.D. 401 ft.; will test S.O. in lenticular sd. at 397-401 ft.
Place Oil Co. No. 1 Davis, SE SE SE sec. 9-26n-113w. Drlg. 950 ft.; S.O. 940 ft.

Natrona County

Stanolind O. & G. No. 1 T.P., C NW SE sec. 26-40n-79w. Cg. 1,140 ft.
Wyalta Oil Co. No. 4 Govt., NW NW sec. 5-29n-81w. Cmtd. 6⅝-in. on top Sundance at 1,082 ft.; rng. 2-in. tbg. to test at 1,030-72 ft.
Wyalta Oil Co. No. 5 Govt., SW SW sec. 30-30n-81w. Tstg. at 1,021 ft.
Wyalta Oil Co. No. 6 Govt., NE SE NW sec. 5-29n-81w. Cmtd. 10-in. at 704 ft.; Dakota at 565-664 ft.

Niobrara County

The Lance Creek field, which has furnished several surprises since its discovery 20 years ago, supplied another this week when Ohio Oil Co. No. 5 Leo O.P.C.-16, NW NW SW section 35-36n-65w, was completed at 5,537 feet as a producer in the Lower Minnelusa (Tensleep) for an estimated capacity of 360 bbls. per day. The discovery definitely proves a lower producing horizon than the Sundance, in which the field has an estimated reserve of 35,000,000 bbls. under 2,200 proven acres. The area proven by the new discovery appears to extend out farther than the Sundance horizon. No. 5 Leo is 3¾ miles east of the crest of the dome and three-fourths of a mile east of Continental Oil Co. No. 1 Apex-3, the nearest Sundance producer.

The discovery in the Minnelusa became a "mystery" well after it topped the red beds at 4,297 feet, but upon completion official information was released. Total depth is 5,537 feet. It had 21 feet of saturated sand in the Lower Minnelusa at 5,516-37 feet. The basal Sundance at 4,275-97 feet had water and the Upper Minnelusa at 4,935 feet also had water. The 7-inch was cemented at 5,515 feet with 500 sacks. It gauged 25 bbls. an hour on a 15-hour test and was then shut in for additional tankage. The oil tested 42 gravity, is dark green in color and has a paraffin base. The elevation

A. R. McElreath, oil producer, Fort Worth, Tex.; Gordon Gray, scout, and T. C. Cash, geologist with Humble Oil & Refining Co. at Tyler, Tex., leave it to the reader's imagination as to what it is that amuses them

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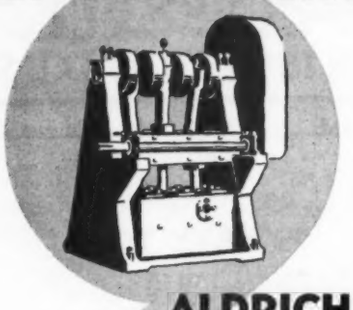

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of the well is 4,470 feet and the Sundance is about 400 feet down structure.

This is the second well drilled to the Minnelusa by the Ohio company, the only deep tests in the field. The first was No. 5 Converse Sheep, reported good for about 4,000 bbls. a day of 42 gravity. It was plugged back and completed in the Sundance. This well is in the SE SW section 32-36-65. It was supposed to have been shut in to prevent an offset drilling campaign when the field was under proration from the Sundance. However, the new discovery will be produced and already a drilling campaign is being started.

The Ohio company released two locations on the Leo tract, both old wells to be deepened to the Minnelusa. No. 1 Leo O.P.C.-16, NW cor. SE section 35, was completed in 1920 in the Dakota at 3,825 feet for 25 bbls. and abandoned. This well is a half mile east of No. 5. No. 2 Leo in the NE cor. SE section 35 was dry and abandoned in the Dakota at an unreported depth. It is three-fourths of a mile east of the discovery on this lease and will extend the Minnelusa horizon that far. Continental Oil Co. has offset acreage on the west, north and northwest and will have three offsets to drill or deepen to the new horizon. Several leases on the west side of the Sundance pool are now believed to be well within the closure for the Minnelusa. These include MacKinnie Oil & Drilling Co.'s Thompson lease and Holly Development-A. B. Cobb's Novick lease. These wells may be drilled to the deeper horizon.

Argo Oil Co. No. 3 Ford, SW SW NW section 33-36n-65w, was deepened from 3,990 feet to 4,052 feet and on a short pumping test is estimated at 60 bbls. in the Sundance.

Ohio Oil Co. No. 2 Richards & Comstock, C NE SW section 32-36-65, deepened from 3,650 feet to the basal Sundance, was completed at 3,783 feet and made 627 bbls. through the casing and 720 bbls. through the tubing. It topped the basal Sundance at 3,778 feet.

The Ohio company No. 2 Putnam, NE SW NW section 4-35n-65w, deepened from the Dakota at 3,430 feet, was recompleted in the Sundance at 4,085-96 feet and made 672 bbls. first 24 hours.

Ohio Oil Co. No. 2 Leo O.P.C., NE NE SE sec. 35-36n-65w. R.U. to go to the Minnelusa (first report).
Ohio Oil Co. No. 1 Leo-O.P.C.-7, NW NW SE sec. 35-36n-65w. R.U. to deepen to the Minnelusa (first report).
Ohio Oil Co. No. 10 Lamb-Acct. 2, C NE SE sec. 5-35n-65w. M.I.M. (first report).
Continental Oil Co. No. 1 Leach, SW NE NE sec. 29-36n-64w. Spdg. 130 ft.
Argo Oil Co. No. 4 Ford, SW NW SE sec. 33-36n-65w. R.U.
A. B. Cobb and Holly Dev. Co. No. 2 Novick, SE SE SW sec. 6-35n-65w. S.D. 4,097 ft. for Schlumberger test before rng. pipe; oil sat. 3,991-4,030 ft.
Continental Oil Co. No. 4 Schuricht B, NW SW SE sec. 6-35n-65w. Drlg. 3,282 ft.
Continental Oil Co. No. 8 Otto Rohlff, SW SW SE sec. 31-36n-65w. Rig.
Continental Oil Co. No. 10 Tom Bell Cattle, C SW NW sec. 34-36n-65w. Cg. 4,013 ft. in basal Sundance; top 4,003 ft.
MacKinnie Oil & Drlg. Co. No. 2 Thompson, NW NW NE sec. 7-35n-65w. Drlg. 3,990 ft.
J. M. Huber Corp. No. 1 Lamb, SE SE SW sec. 27-36n-65w. Drlg. 2,150 ft. in new hole.

Park County

Resolute Oil Co. No. 1 Northern Pacific, C NE NW sec. 21-57n-101w. R.U.R. (first report).
Kinney-Coastal Oil Co. No. 3 Govt., SW NW NE sec. 24-56n-97w. T.D. 4,338 ft.; R.U. to deepen.
Resolute Oil Co. No. 1 Govt., C NE NE sec. 20-57n-101w. Drlg. 3,100 ft.
General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. T.D. 6,076 ft.; P.B. to Tensleep; C.O.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Resuming at 2,385 ft.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Stone, C SW SW sec. 18-19n-103w. Drlg. 2,702 ft.; 13⅜-in. at 266 ft.
Mountain Fuel Supply Co. No. 3 Union Pacific, SE NE sec. 15-16n-104w. T.D. 2,270 ft.; 8⅝-in. 2,246 ft.; tstg. in Frontier.

Uinta County

E. A. Ottman et al No. 1 Govt., C SE NW sec. 26-14n-119w. M.I.M. for cable tool test to Bear River form. at 1,600 ft.

Washakie County

Arlton & Doyle No. 1 Govt., SW SW SE sec. 29-48n-91w. T.D. 1,356 ft.; prep. to resume.
Yale Oil Corp. No. 2 Govt., CEL SE SE sec. 25-48n-91w. Loc.
Bruce Teeter No. 5 Govt., CSL SW SW sec. 40-48n-90w. Drlg. 100 ft.; 10-in. at 85 ft.
Christensen & Thorne No. 3-X Govt., NW SW SW sec. 31-48n-90w. Drlg. sh. 860 ft.
Wyoming O. & R. Co. No. 8 Govt., NW NE NW sec. 31-48n-90w. Drlg. 200 ft.; 10-in. at 79 ft.
Wyoming O. & R. Co. No. 7 Govt., SW NW NW sec. 30-48n-90w. Drlg. bl. sh. 710 ft.; 10-in. at 87 ft.

Weston County

Chas. Stough No. 9, SE SW NE sec. 4-46n-63w. R.U.; (first report).
Henry Egert No. 6, C NE SE sec. 8-46n-63w. Spdg.; (first report).
Bert Higgins No. 5, CNL NW SW sec. 4-46n-63w. Drlg. 220 ft.; (first report).
R. L. Rose No. 7, C SW SE sec. 8-46n-63w. S.D. 250 ft.

MONTANA

Big Horn County

Big Horn O. & G. Co. No. 31, CWL SE NW sec. 23-1s-33e. Drlg. 625 ft.
Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. Drlg. 3,900 ft. with 2-in. bit.

Carbon County

Ohio Oil Co. No. 16 Kirt, C SE SE sec. 4-7s-21e. Drlg. 610 ft.

Cascade County

C. Leonard Smith No. 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. Asked for bids from rotary contractors to deepen from 620 ft.

Fallon County

Nagasco Corp. No. 1, C SE sec. 24-5n-6e. Drlg. 720 ft.

Glacier County

There were two completions and two new operations in the Cut Bank field. Santa Rita Oil & Gas Co. had a better than average well in No. 1 Rasmussen, C NE SW section 32-33n-5w, in the southern part of the pool. It swabbed 205 bbls. first 24 hours at 2,946 feet. The Cut Bank sand was at 2,905-40 feet. Elevation 3,762 feet.

Cut Bank Oil Trust No. 1 Yunck, SE cor. section 23-34n-6w, swabbed 15 bbls. first 24 hours at 2,895 feet, from the pay at 2,840-90 feet. It was then shot with 40 quarts. There was a show of oil in the Sunburst at 2,820-30 feet.

Wm. Hanlon No. 3 All.-128, CWL SW NE sec. 12-32n-6w. R.O.G. (first report).
Texas Co. No. 2 Tweedy, C NE NW sec. 21-35n-6w. Loc. (first report).
A. B. Cobb No. 5 Walburger, C NE SE sec. 35-35n-6w. R.O.G. (first report).
Grant Oil Co. No. 1 Rueffen, C SW SE sec. 5-32n-5w. R.O.G. (first report).
Montana Headlight Oil Co. No. 5 Britton, SE SW NE sec. 14-34n-6w. Drlg. 1,840 ft.
R. C. Tarrant No. 4 Reickhoff, NE NE SE sec. 22-32-6w. Drlg. 330 ft.
Glacier Prod. Co. No. 2 State-16, SW SW SW sec. 16-33n-5w. Drlg. 725 ft.; Colo. 572 ft.; 10¾-in. at 580 ft.
Glacier Prod. Co. No. 2 Neill, NE NE NE sec. 20-33n-5w. Drlg. 1,700 ft.
Texas Co. No. 4 Sec. 9 Unit, C NE NW sec. 9-32-5w. Drlg. 2,207 ft.
Texas Co. No. 2 Hardwick, C NE SE sec. 17-32n-5w. Drlg. 115 ft.
Texas Co. No. 1 Lennon, C NW SE sec. 24-33n-6w. T.D. 3,012 ft.; cmtd. 7-in. at 3,010 ft.
A. E. Wilkinson No. 3 All.-127, C SE SE sec. 1-32n-6w. Drlg. 460 ft.
K. D. Pardee No. 1 Corrigeaux, NE NE SE sec. 35-34n-6w. Drlg. 1,600 ft.
Hannah-Porter No. 3 All.-130, NW SE SW sec. 6-32n-5w. Drlg. 2,100 ft.
A. R. Pardue No. 1 Anderson, C SE SW sec. 31-32n-5w. T.D. 1,820 ft.; recmtd. 10¾-in.; W.O.C.
A. E. Crumley No. 2 All.-112, C NW SW sec. 6-32n-5w. Drlg. 2,300 ft.
Glacier Prod. Co. No. 2 O'Brien, C NW SW sec. 32-34n-5w. Drlg. 2,660 ft.
Texas Co. No. 3 Unit 9, C SE SW sec. 9-32n-5w. T.D. 3,007 ft.; cmtd. 7-in. 2,980 ft.
Nadeau Bros. No. 4 Farmers State Bank, CSL NE sec. 17-33n-5w. Drlg. 2,475 ft.
Annand-Hutchings No. 3 Federal Land Bank, NE SE SW sec. 11-34n-6w. Cmtd. 7-in. 2,856 ft.; W.O.C.
R. E. Lee No. 1 Davis, C S½ SE sec. 15-32n-6w. Drlg. 2,855 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e. S.D. 1,400 ft.; Kootenai dry; will go to Madison.

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Musselshell County

R. C. Tarrant and J. C. Johnson No. 24-A Govt., SW NW NW sec. 25-11n-24e. T.D. 465 ft.; R.U. to resume (formerly Geo. Gregory et al).

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. T.D. 606 ft.; prep. to resume.

Pondera County

Gordon Campbell No. 1 Hughes, NW NE NW section 12-30n-4w, in the Bull Creek district, was abandoned at 2,560 feet. It had sulfur water in the Madison topped at 2,498 feet.

Kirk Oil Co. No. 1 Kellogg, SE NW NE sec. 31-28n-4w. T.D. 2,296 ft.; rec. tools and drlg. ahead.
Clinch Pet., Ltd., No. 1 Hollam, NW NW NW sec. 12-28n-6w. Drlg. 2,785 ft.

Phillips County

City of Malta No. 1 Govt., C SE SE sec. 18-30n-30e. Drlg. 1,150 ft.
R. G. Parrent No. 1 Hartman, C NW SE sec. 12-24n-25e. Drlg. 898 ft.

Petroleum County

O. B. Canfield No. 1 Govt., CEL SE NE sec. 21-17n-24e. Rng. 3-in. to set at 750 ft.

Toole County

There were seven completions and two new operations in the Kevin-Sunburst field. A. E. Crumley No. 7 Jarrett, CEL SE NE section 29-35n-2w, made 35 bbls. per day after acidizing from the contact at 1,470-78 feet. Consolidated Gas Co. No. 1 fee, CSL SE NW section 29-35n-2w, which made 12 bbls. per day naturally, increased to 75 bbls. per day after acidizing. Contact was at 1,509-12 feet. J. W. Perrin No. 1 Haugen, SW NE NW section 11-35n-3w, made 170 bbls. per day after acidizing. It had the Sunburst at 1,590-1,620 feet, and the contact at 1,843-45 feet.

Big West Oil Co. No. 7 Dahlquist, NE NW NE section 21-35n-3w, which was a dry hole in the contact at 1,827-37 feet, was acidized and was turned into a 10-bbl. well. Nepstad & Vanderpas No. 2 Solberg, C SW NE section 29-35n-3w, made 50 bbls. per day after acidizing from the contact at 1,755-80 feet. William McKnight No. 2 Gunderson, CWL SE NW section 19-35n-2w, pumped 80 bbls. per day from the contact at 1,574-1,626 feet after acidizing with 750 and 1,000 gallons. Welch Brothers No. 1 Larum, SE cor. NW section 25-36n-2w, was abandoned at 1,658 feet after shooting the Sunburst at 1,625-58 feet.

William McKnight No. 2 State, NW NW NW sec. 16-35n-2w. Drlg. 200 ft. (first report).
Consolidated Gas Co. No. 2 fee, CEL SE NW sec. 29-35n-2w. Drlg. 850 ft. (first report).
New Era Fuel Co. No. 1 Goeddertz, CWL NE SW sec. 2-35n-3w. Drlg. 1,655 ft.
A. C. Crumley No. 12 Shaw, SE NE NW sec. 35-36n-2w. Drlg. 700 ft.
A. C. Carney No. 2 Stockman, CSL NW NE sec. 11-35n-2w. Loc.
A. C. Carney No. 1 Stockman, CWL SE NE sec. 11-35n-2w. T.D. 1,577 ft.; contact 1,551 ft.; dry; acid. 500 gals.; shot 20 qts.
Security Oil Co. No. 1 Kopsing, CWL SW SE sec. 24-34n-2w. Loc. (first report).
Capitol Oil Co. No. 1 Pace, C SE SW sec. 27-36n-1w. Drlg. 1,000 ft.
S. V. Day No. 3 Halter, NE NE NE sec. 17-35n-2w. Spdg.
Lamont Pet. Co. No. 1 Van Note, NE NE NW sec. 30-35n-2w. Contract 1,509-12 ft.; dry; will abd.
Wm. Knight No. 2 Haviand, CWL SE NW sec. 19-35n-2w. Drlg. 1,530 ft.
Twin Buttes Synd. No. 1 Thompson, NW NE NW sec. 33-35n-3w. Drlg. 1,690 ft.; contact 1,685 ft.
Watson et al No. 2 Leach, SE NE NE sec. 31-35n-3w. T.D. 1,796 ft.; contact 1,795 ft.; will acid.
A. Beardslee No. 6 Swears, SW SE NW sec. 9-35n-2w. Drlg. 1,685 ft.; Sunburst 1,408-34 ft.; dry.
Browning-Sunburst 32 Synd. No. 1 Goeddertz, NE NW SW sec. 21-36n-3w. T.D. 1,365 ft.; U.R. for W.S.O.
Rimrock Oil Co. No. 1 Govt., CEL SW NW sec. 29-35n-3w. Drlg. 1,000 ft.
Bryant Bros. No. 1 Lashbaugh, NE SW NW sec. 34-25n-2w. T.D. 850 ft.; R.U. heavier machine to resume.
Ogden-Kevin Oil Co. No. 7 Zachot, SE SW NW sec. 20-35n-1w. S.D. 900 ft.
Gus Blaze No. 5 Burwash, CSL NE SW sec. 15-34n-1w. S.D. 250 ft.; repairs.
F. C. Platt No. 1 Roseth, SE SE NE sec. 35-35n-3w. T.D. 1,505 ft.; fsg. bit.
Treasure State Oil Co. No. 4 Shaw, SW NE NE sec. 35-36n-2w. Drlg. 840 ft.
Eagle Pet. Co. No. 1 Haugen, C SE NW sec. 12-35n-3w. Drlg. 1,175 ft.
S. F. Scotland No. 1 McNamar, C NE SW sec. 29-35n-3w. Contact 1,758-60 ft.; acid.; fsg.

Yellowstone County

Western Dakota Oil Co. No. 1 Fox, CEL NW NE sec. 14-2n-23e. Drlg. 400 ft. in 15½-in. hole.
Broadview Dome Oil Co. No. 1, NE NE SW sec. 18-3n-23e. Drlg. 187 ft.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 Lauzier, CNL NW NW sec. 27-3n-24e. Drlg. 3,425 ft.

Emery County

Standard Oil Co. of California and Continental Oil Co. No. 1-A Palm, C NW NW sec. 27-23s-11e. Drlg. 4,545 ft. in sd. and sh.

Grand County

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. S.D. 6,715 ft.; M.I. heavier rot. equip.

Columbia Crude Corp. No. 1 Rath, NW SW SE sec. 12-25s-20e. Drlg. 2,265 ft.
Cane Creek Oil Co. No 1 Govt., NW SW sec. 31-26n-21e. R.U.R.

NEBRASKA

Sioux County

J. M. Huber Corp. and United Producers, Inc., No. 1 Morgan, C SW SW sec. 32-35n-56e. S.D.O. 2,900 ft.; 1,800 ft. wtr.; top Dakota 2,475 ft.; top Lakota 2,655 ft.; wtr.

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-33n-50w. Drlg. 2,540 ft.

Lincoln County

Smith & Wright No. 1 Hansen, C SW NW sec. 24-15n-31w. S.D. 1,805 ft.

Jefferson County

L. R. Page et al No. 1 Bonham, C SE SE sec. 1-1n-1e. Loc.; cable tool test to Siliceous L. at 3,500-4,500 ft. (first report).

Central West Fields

(Continued from Page 97)

Keener sand at 1,315 feet and a shot of 20 quarts in the Injun sand at 1,357 feet.

In Guernsey County, section 7, Jefferson Township, George Jewell No. 2 M. Kennedy was drilled to 1,216 feet and abandoned after a small show of gas in the top Berea sand at 1,135 feet. In section 17,, Merle McCullough No. 1 Walter Burnsworth was drilled to 1,126 feet without a show and abandoned. In section 6, Ohio Fuel Gas Co. has completed the test on the A. W. Marling property in the Grey slate at 1,098-1,105 feet and abandoned it after a small show of oil at 1,045 feet.

In Washington County, section 34, Grandview Township, Hall & Hanlon & Co. No. 2 Mary Moore gauged 104,000 feet at 1,377-49 feet and one-half barrel of oil at 1,420-30 feet. In section 34, Ludlow Township, Depuy Brothers No. 4 Winland was shot with 60 quarts at 1,331-49 feet and made 330,000 feet. In section 6, Barlow Township, Devitt & Co. No. 18 Francis Fisher was completed below the first Cow Run at 821-41 feet pumping 5 bbls. of oil after shot of 30 quarts. In Location 1072, Palmer Township, Russel & Co. No. 26 J. Lorentz made a show of oil naturally in the first Cow Run at 650-55 feet but was abandoned.

Joe Pierce No. 2 Charles Nelson, section 9, Deerfield Township, Morgan County, was drilled through the first Berea sand at 1,336-56 feet and gauged 100,000 feet after shot. In section 1, Homer Township, C. S. Parks & Co. No. 25 George Linscott, completed in the second Berea at 1,592-1,608 feet, made 25,000 feet and will not be shot. In section 32, Marion Township, J. V. Bowman No. 6 C. Huffman made 53,000 feet in the same formation at approximately the same depth. In section 30, Hummel & Co. No. 7 A. Hummel was drilled through the Vessel sand at 181-86 feet and at 192-99 feet, and made one-half barrel of oil after a shot of 26 pounds.

In Athens County, section 34, Rome Township, Ohio Fuel Gas Co. No. 2 J. Winner was completed below the second Berea at 1,580-90 feet and abandoned after a shot failed to increase the natural flow of 5,890 feet of gas. In section 16, Lodi Township, the company abandoned No. 4 State of Ohio. It made 9,941 feet of gas naturally which a shot increased to 24,000 feet. In section 16, Rome Township, William Brothers No. 5 Grace Leslie made 200,000 feet in the Salt sand at 764-81 feet. In section 30, Gibson & Co. No. 1 Wells Vandyke

Clyde Robinson, petroleum engineer, and Larry Gilnaugh, traveling auditor, Gulf Oil Corp., Fort Worth, Tex.

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and others was completed below the second Cow Run sand at 722-30 feet and gauged 368,000 feet.

In Meigs County, section 21, Rutland Township, A. M. Roberts No. 4 Jennie Jacks made 60,000 feet in the Salt sand at 636-58 feet. In section 31, Lebanon Township, Meigs Developing Co. No. 1 Charles Cur Estate was drilled through the first Berea sand at 2,017-21 feet and made 383,000 feet.

Kansas Fields

(Continued from Page 81)

Webb, SE NE SE section 32-26-13, had lime at 1,573 feet to 1,790 feet and 1,848-52 feet and the hole filled 1,400 feet with oil in two days. It had not been tested. Steinbuchel and others spudded No. 1 Atkinson, SE SE NE section 21-33-13.

Coffey County

In Coffey County, W. E. Ellis abandoned a test on the Hannan farm, SE SW SE section 11-23-14, at 1,690 feet. It showed only water.

Chautauqua and Elk Counties

Ira Scott and others finished a failure in No. 1 Lambe, SW NW NE, a wildcat in Chautauqua County. Siliceous lime at 2,000-06 feet contained only water.

Morris Gold and others No. 1 Payne, a wildcat, 1,120 feet from north and 500 feet from east lines of NW quarter section 32-33-13, had Siliceous lime at 1,879-81 feet, but only a hole of water resulted. It was abandoned.

Sagamore Oil Co. No. 2 Kingston, 350 feet from south and 430 feet from west lines of SE quarter section 8-32-11, is a 1,900,000-foot gas well from Oswego at 1,468-71 feet. Completed.

Tuesday Oil Co. No. 1 Sturgess, NW NW NE section 2-33-11, was a hole full of water from Siliceous lime at 2,048-52 feet, and was abandoned.

Beeler & Calvert and others have a 1,250,000-foot gasser in No. 1-A Graham, C S half SE NW section 29-33-12, at a total depth of 655 feet. It was completed.

E. I. Shaffer No. 1 Nuckolls, wildcat test, NW NW NW section 12-33-9, had Mississippi lime at 2,377 feet and drilled to 2,540 feet, finding only water. It was abandoned.

In Elk County Diller Oil & Gas Co. No. 5 Key, C W half SW NW section 25-31-10 is a 35-bbl. well after a 1,000-gallon acid treatment in Oswego lime at 1,640-61 feet.

Murphy Oil Co. No. 7 Denton, 945 feet from north and 100 feet from west lines of SW quarter section 3-31-8e, was delayed by a fishing job, total depth 1,845 feet; L. H. Wentz made a location for No. 1 Arbuckle Estate, 1,120 feet from south and 660 feet from east lines of SW quarter section 30-31-9e.

Ellsworth County

Frost and others No. 1 Dolechek, NE NE SW section 36-14-8w, Ellsworth County wildcat, had a hole full of water from Siliceous lime at 3,506-15 feet and was abandoned.

Cowley County

Lloyd, Frost & Study and others made a location for No. 1 Monforte, NW SW SE section 33-31-3e, Cowley County, and for No. 3 Wilson, NE SE SW section 33-31-3e. National Refining Co. made a location for a wildcat, No. 1 Schwantes, NW SW NE section 16-32-3.

Pawnee County

Simpson Oil Co. and others were rigging up rotary for a wildcat in Pawnee County, No. 1 Hewson, SE SE SW section 13-21-17w.

Trego County

Rose Spring Drilling Co. and others No. 1 Duncan, SE SE SE section 35-12-21w, found Siliceous lime at 3,867-76 feet and a hole full of water. It was abandoned.

Barber County

Olson Drilling Co. No. 1 Whelan, SW SW SW section 29-31-11w, Barber County, topped Chat at 4,305 feet and pay at 4,311-16 feet. It pumped and flowed 864 bbls. in 24 hours and was completed.

Logan County

Rose Spring Drilling Co. and others wildcat test in Logan County, No. 1 Wright, C SE SE section 12-15-35w, was reported abandoned. It had the top of the Mississippi lime at 4,655 feet and had a show of oil at 4,850-60 feet and was drilling at 4,910 feet when the drill pipe stuck, so the test can not be called conclusive.

California Fields

(Continued from Page 86)

No. 12 O'Dea, a former upper zone producer was redrilled and deepened to 6,568 feet and brought in flowing 358 bbls. of relatively clean 33.5 gravity oil and 157,000 feet of gas per day through a 22/64-inch bean. The hole was finished with a 6⅝-inch water string at 6,035 feet and 554 feet of 4¾-inch liner including 504 feet of perforated.

An interesting group in the Central Kansas area: In the lower row, Jim Haskin and O. C. Haskin, Haskin Drilling Co., Great Bend, Kans.; and Oscar (Doc) Hoyt, superintendent for Morgan, Flynn & Cobb, Great Bend. Above are J. W. Harmon, production foreman, Morgan, Flynn & Cobb, Otis, Kans.; E. T. Schermerhorn, scout for Schermerhorn Oil Co., Great Bend, and J. T. Haun, scout for Harris & Haun, Inc., McPherson, Kans.

Michigan Fields

(Continued from Page 78)

to 1,172 feet, but continued drilling for Dundee oil.

A dozen other tests were active in the northeast field though none were near completion.

Wolverine Natural Gas Corp., which the week before completed a 6,300,000-foot Michigan Stray gas well in the Belvidere Township section of the Tri-Townships field in Montcalm County, also was nearing the shale gas sands in the No. 1 Richardson and others, NE NE SE section 3-12n-7w, Belvidere.

New Locations

Robert McIntyre, an Oklahoma contractor, has announced a new test for the George Blake lease, NE SE SW section 11-18n-3e, Gibson Township, Arenac County, about half a mile south of the T. F. Caldwell, Inc., pair of wells producing for about a year from the Dundee.

Stork Oil Co. also moved in to drill another Dundee oil test in Gratiot County, where only Berea and Michigan Stray gas wells so far have been found. It will be the Harry B. Cowdry No. 1 Bernard DeVuyst, SE SE SW section 11-10n-2w, in North Star Township. More than 60 dry holes have been drilled in Gratiot County in search for oil, fruitless to date.

Carter Oil Co., Gulf Refining Co. and McClanahan Oil Co. are reported planning a cooperative test in section 13, Newark Township, Gratiot County.

The Emmet-Cheboygan Oil & Gas Co., a new independent concern, has been formed by business men of Petoskey, in northwestern Lower Michigan, to drill the No. 1 Barney, NW NW SE section 13-35n-4w, Littlefield Township, Emmet County, a rank wildcat expected to test the Dundee and Monroe formations at 500 to 1,000 feet, comparatively shallow when compared with the greater depths of 2,500 to 4,500 feet in the central part of the Lower Michigan Basin. Thomas S. Knapp, consulting geologist, of Mount Pleasant, is directing the project to be drilled by C. W. Jones of West Branch, Mich.

Louisiana-Arkansas Fields

(Continued from Page 83)

gravity of 45.5 degrees, A.P.I., corrected. Yield was 27 per cent gasoline, 16 per cent naphtha, 14 per cent kerosene, 31 per cent gas oil, 12 per cent bottoms and loss. Gasoline endpoint 325 degrees, naphtha 450 degrees, kerosene 540 degrees. Octane rating 50.

EAST TEXAS (Border Counties)

Harrison County

The Waskom oil and gas field of Harrison County, Texas, was extended about one-half mile east recently, by completion of the Field and Rector No. 1 Williams in the G. P. Harrison Survey, flowing about 300 bbls. in 14 hours after acidizing from the Tokio sand at total depth of 2,395 feet. This completion will stimulate additional drilling for oil along Waskom's flank.

Cone Repair Infringement

In the suit filed by Hughes Tool Co. against Southwestern Tool Co. and Emil Dufek, Judge Vaught of the U. S. District Court at Oklahoma City, held in favor of the plaintiff, Hughes Tool Co. The suit involved the alleged repair by the defendants of cones manufactured by the plaintiff. The court ruled that the operations of defendants upon worn out Hughes Tool Co. cones, was not legitimate repair but was rebuilding and reconstruction and hence an infringement.

The court stated: "The defendants made, in the sense of reconstructed, cones embodying all of the elements of the claims of the patents in suit as enumerated . . . The plaintiff is entitled to an accounting prayed for in plaintiff's bill of complaint, together with the costs of this suit."

This decision is considered important as it applies to the disputed question of whether reworking and retipping worn cones is an infringement of Hughes Tool Co. patents or simply legitimate repair. The court held it to be an infringement.

Western Kentucky New Wells Average Large Production

By SPECIAL CORRESPONDENTS

OWENSBORO, Ky., June 7.—The Hardin pool in McLean-Ohio counties and the Easton district in Hancock County report a total of 13 new oil wells averaging 148 bbls. initial production per well and ranging from 10 bbls. up to 400 bbls. in individual wells. In addition to these there were four commercial-sized gas wells completed and three dry holes, a total of 20 completions for the week.

Following is the record of completed wells and new work reported in the western Kentucky fields.

Hancock County

Easton district: J. C. Ellis No. 15 Link Richards, 75 bbls., Jackson sand; No. 16 Link Richards, 75 bbls., Jackson sand; No. 10 H. D. Fuqua, 10 bbls., Jackson sand. W. E. Hupp No. 4 Emma Falls, 50 bbls., Jackson sand; No. 2 J. Easton, drilling; No. 2 Matt Young, drilling. Eureka Drilling Co. No. 1 Fred Richards and others, 550,000 feet of gas, 52 pounds rock pressure, Jackson sand 560-585 feet, total depth 585 feet. Moss Oil Co. No. 1 Mrs. Nora Richards, 681,000 feet of gas, 141 pounds rock pressure, Jackson sand 584-605 feet, total depth, 605½ feet. Egg Oil Co. No. 3 C. W. Smith, drilling Jackson sand 416 feet, 25,000 feet of gas in stray sand, no Jett sand. Frank Damron and others No. 1 Ollie Lyons, drilling at 335 feet. Jay Petroleum Co. No. 3 Alton Mason, moving in.

Lewisport district: Taylor Bros. and others No. 2 T. K. Taylor, drilling at 285 feet.

Pellville district: O. D. Vickers and others No. 4 Mrs. M. O. Brown, moving in; No. 6 I. C. Stephens, moving in. McDonugh & Co. No. 7 Ada Frank, 40 bbls., Jett sand 25 feet. Miller Bros. No. 7 E. M. Roby, shut down at 405 feet.

Ohio County

Fordsville district: H. Vickers and others No. 9 W. C. Richards heirs, drilling at 105 feet. Interstate Oil & Gas Co. No. 1 D. A. Beatty, dry hole 330 feet.

Westerfield district: W. W. Damron No. 1 Allen King heirs, drilling 300 feet. Vickers & White No. 2 Hulett heirs, drilling at 560 feet. Jess Ellis No. 10 C. D. Westerfield, drilling. Rex-Pyramid Oil Co. No. 13 Len Stinnett, shut down at 350 feet.

Friendship Church district: South-Penn Oil Co. cleaning out old wells on the F. L. Royal lease. Fred J. Young and others No. 10 Oscar Whitehouse, 40 bbls., Barlow sand. Inland Oil & Gas Co. No. 4 A. S. Crawley, drilling 265 feet. Kentucky Natural Gas Co. No. 3 J. M. Reynolds, spudding in. Kirtpatrick Drilling Co. No. 8 J. W. Hardin, drilling 100 feet. The Petroleum Co. No. 4 Ben Canary, rigging up.

Adaburg district: Sherman Hall No. 1 W. Whittaker, drilling at 570 feet. Dundee district: Jay Petroleum Co. No. 2 O. N. Steward, shut down at 270 feet. Evans and others No. 7 Cameron heirs, Jackson sand at 535 feet.

Sunnydale district: Joe Lang No. 2 Ed. F. Cook, drilling at 50 feet. Taffy district: George Hogue No. 2 Anna W. Hoover, drilling at 685 feet. J. C. Ellis No. 14 J. T. Hogland, drilling at 380 feet. Buford district: Cumberland Petroleum Co. No. 17 S. L. Lloyd, dry hole through stray sand. Heflin district: Cox & Acton No. 2 Allen Johnson, drilling at 375 feet.

McLean and Ohio Counties

Hardin pool: Carpenter and others No. 1 William Hardin heirs, 112 acres, drilling 900 feet. W. E. Hupp and others No. 16, 17, 18 Hackett Bros., previously reported as Nos. 18, 19 and 20. W. E. Hupp and others No. 16 Hackett Bros., 375 bbls., Jett sand 1,090-1,120 feet, shot 100 quarts, total depth 1,121 feet; No. 17 Hackett Bros., 200 bbls., Jett sand 1,110-1,136 feet, shot 140 quarts, total depth 1,137 feet; No. 18 Hackett Bros., 400 bbls., Jett sand 1,103-1,125 feet, shot 100 quarts, total depth 1,136 feet.

The Petroleum Co. No. 5 Mrs. Bettie Cullen, 150 bbls., Jett sand 1,126-1,152 feet, shot 100 quarts, total depth 1,157½ feet; No. 6 Cullen, 150 bbls., Jett sand; No. 7 Cullen, drilling 535 feet; No. 8 Cullen, spudding in; No. 9 Cullen, moving in.

J. C. Miller and others No. 3 Austin & Cullen, drilled deeper, 27 feet of Jett oil sand, shot 110 quarts, 300 bbls.; No. 5 Austin & Cullen, 200 bbls., Jett sand 1,097-1,137 feet, total depth 1,137 feet; No. 6 Austin & Cullen, drilling at 550 feet; No. 7 Austin & Cullen, rigging up.

W. E. Hupp and others No. 1 John A. Givens, 60 bbls., 700,000 feet of gas, Jett sand 1,092-1,113 feet, total depth 1,137 feet; No. 2 John A. Givens, drilling at 525 feet; No. 2 L. W. Tichenor, moving in. Carpenter and others No. 5 William Hardin heirs tract No. 1, rigging up; No. 5 William Hardin heirs tract No. 2, drilling at 150 feet. Clark & Snyder No. 2 Barnett heirs, drilling 300 feet; No. 4 E. Humphrey, drilling Barlow sand at 1,325 feet. Ohio Oil Co. No. 1 Mrs. Fannie Foley, rigging up.

Daviess County

Pellville district: Rex-Pyramid Oil Co. No. 1 John Cooper, rigging up. Cane Run School district: Rex-Pyramid Oil Co. No. 8 S. Hinton, north tract, drilling 610 feet. South-Penn Oil Co. No. 5 E. C. Ward, shut down top Jett sand 635 feet. Hewlett's Store district: Sunflower Oil & Gas Co. No. 1 Ollie Bean, drilling at 775 feet. Red Hill district: H. C. Davis and others No. 6 Herbert Salmon, shut down at 585 feet. Hoosier Drilling Co. No. 1 Jim Yeiser, drilling 460 feet.

McLean County

Maxwell district: Ellis & Huff No. 2 John Ditto, moving in. Knobs district: Wickland Development Co. No. 2 Jake Conrad, drilling at 125 feet. Island district: Snowden & McSweeney No. 1 J. P. Daniels, drilling at 815 feet. Sacramento district: A. D. Noe and others No. 1 Eaves Barrett, dry hole, total depth 2,037 feet, water in Bethel sand at 2,026-2,037 feet. Cleopatra district: Hoosier drilling Co. No. 1 J. T. Hayden, drilling at 25 feet.

Webster County

Onton district: W. Sargent and others No. 1 J. E. Jenkins, drilling.

Hopkins County

Slaughters district: Imperial Oil & Gas Co. No. 1 Archibald Estate, underreaming at 2,520 feet.

EASTERN KENTUCKY OPERATIONS

ASHLAND, Ky., June 7.—Three small completions were reported in Eastern Kentucky, Petroleum Exploration No. 14 on Tickey Fork in Estill County flowing 1 bbl. a day and its No. 30 nearby, 2 bbls. John M. Collins No. 2 on Miller's Creek in Estill County flows 4 bbls. H. D. Parrish, Jr., and others No. 1 on Silver Creek in Lee County was dry, as was Wireman Brothers No. 3 on South Fork in Powell County.

Several operators are cleaning out old wells while operations in many districts are nearly at a standstill. Inland Gas Corp. made good progress in No. 2 R. C. Kilgore on Troublesome Creek in Knott County dropping down 465 feet to the 825-foot mark. Some repressuring work is being done in this section.

In Lee County, Whitmere Oil Co. with R. T. Bains, operator, is on top sand in No. 2 J. C. White on Billie's Fork of Silver Creek. H. D. Parrish, Jr., and others No. 1 Pryse and Gourley land of Brown Tract on Silver Creek was dry.

Henry Day is still fishing in No. 7 Poplar Thicket on top Bald Rock Hill. Rush Cable is also fishing No. 5 L. Noe on Little Sinking Creek. South-Penn Oil Co. is down 800 feet in No. 92 Flahaven Land Co. in Town Hollow. Evans Oil Co. No. 1 J. F. Raines, Billie's Fork, reached 600 feet.

Price Fraley and others No. 3 Andrew Cinibe on Billie's Fork is down 700 feet and Garrison & McConn No. 1 is at 300 feet. Floyd Fitch is drilling on Bud Ross land on Cave Branch of the Big Sinking district.

In Powell County, Wireman Brothers No. 3 Albert Stewart on South Fork was dry. South-Penn Oil Co. has a rig cleaning old wells on the David Patrick farm.

In Estill County, Petroleum Exploration No. 14 Sam Bringor was completed at 190 feet with a flow of 1 bbl. The same firm completed No. 30 Thomas Henderson at 538 feet with a flow of 2 bbls. John M. Collins No. 2 Mailuly on Millers Creek was completed at 283 feet for 4 bbls.

Only one operation was reported from Wolfe County, Jim Hollon No. 2 George Lovelace at at 2,300 feet.

In Lawrence County, Ashland Oil & Refining Co. No. 3 Joseph Wheeler, Andrew Skaggs and James Skaggs is at 50 feet.

In the Oil Springs district of Magoffin County, Bed Rock Petroleum Co. moved rig for No. 29 on E. R. Caudill farm on Caudill Fork of Burton. The site is 450 feet from Nos. 24 and 26. In the Falcon district the production on Gullett Branch is showing very light with practically all oil from one well, 50 bbls. were reported on hand with operator planning to move in rig to clean out one or two wells.

Morbald Development Co. No. 2 Charles Wheeler in Wheelersburg district is at 300 feet. A. V. Hoenig has rig up on Green Rice farm and is moving rig to clean out well on Charles Wheeler's Venus farm. Browning Brothers is at 300 feet on air well to be used for repressuring W. H. Conley and C. C. Meade leases in Wheelersburg district.

In Knott County, Inland Gas Corp. hit second Salt sand at 1,542 feet on No. 1 E. A. Hammond on Right Fork of Troublesome Creek near Hindman. The firm is in Big Lime at 1,564 feet in No. 5 S. B. Webb on Jones Fork near Lackey. Inland is drilling in sandy lime at 825 feet in No. 2 R. C. Kilgore on Troublesome Creek.

Louisiana Geology

Under the title "Lower Mississippi River Delta," Geological Bulletin No. 8 has been issued by the Louisiana Department of Conservation, New Orleans, for limited distribution at $1 per copy. This bulletin, over 450 pages, consists of individual reports, dealing with some phase of the geology or geography of Plaquemines and St. Bernard parishes, together with a bibliography of over 400 books, articles and miscellaneous publications bearing on the lower delta and its geological questions, as well as a list of maps of that portion of coastal Louisiana. The subsurface geology of salt and sulfur domes is treated in a report by Dr. H. V. Howe and James H. McGuirt, which gives detailed discussion of the history, paleontology and oil development in Lake Washington, Lake Hermitage, Venice and Garden Island Bay domes.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, June 5. — In the West-Central Turner Valley area, Dalhousie Oil Co. No. 8, LSD 6, section 30-19-2w5, bottoming in the lime at 6,911 feet, has been abandoned after showing only a very small naphtha production. Brown Oil Corp. No. 3, LSD 15, section 19-19-2w5, is working on derrick west of Advance Oil Co. No. 5, which started as a naphtha producer in the Madison, later developing a sustained production of light crude.

In section 33-18-2w5, on the west side of the structure, Royalite Oil Co. No. 3 Sterling Pacific, LSD 13, has dropped to a settled production around 250 bbls. a day. With a natural crude flow around 80 bbls., it was given acid treatment, developing a flush production of 500 to 800 bbls.

In section 32-18-2w5, West Flank No. 2, LSD 1-8, is working on derrick.

In section 28-18-2w5, Richland No. 3, LSD 14, bottoming at 5,433 feet, is running casing to overcome caving and shut off a strong flow of light crude encountered above the lime. The crude rose more than 2,000 feet in the hole, with strong gas showings. The test is deepening to the Madison expected around 5,700 feet.

British Dominion Oil & Development Corp. of Calgary is planning to drill No. 5 on the west side of LSD 6, section 28-18-2w5, offsetting Richland No. 2 to the east. British Dominion No. 4, on the east side, is a naphtha producer from the lime, making 33,541 bbls. last year.

In section 29-18-2w5, Granville Oils is arranging to drill a second test on its west side acreage.

In section 30-18-2w5, Okalta Royalties No. 1 is waiting official approval of tentative location in LSD 5. In section 20-18-2w5, Spy Hill Royalties No. 1, LSD 16, is working on derrick. Royal Canadian Oils No. 1, LSD 15, is below 170 feet. Location was made by Dr. Frank Henderson of Vancouver. It offsets Davies Petroleums No. 1 to the south. Monarch Royalties No. 1, LSD 9, same section, is below 5,660 feet, now the deepest drilling test in the field, expected to get the lime at 6,500 feet.

Highwood-Sarcee Operations

In the south end of the field, Highwood-Sarcee Oils No. 2, LSD 1, section 21-18-2w5, a small naphtha producer in the lime, will gun-perforate the casing above the lime to take production from the Dalhousie sand where good shows of light crude were encountered and cased off. Highwood-Sarcee No. 1, LSD 16, same section, will also perforate to test light crude production. This will be the first time casing has been perforated in Turner Valley.

North Turner Valley

In North Turner Valley, Home Oil Co. No. 1, LSD 8, section 33-20-3w5, is working on derrick. Hilary Head and Clarence Snyder will handle the drilling.

Highwood-Sarcee Oils, Ltd., is preparing for structure testing on 48 sections on the west side of the Sarcee Indian Reserve, southwest of Calgary and northeast of the Turner Valley field.

On the Kootenay dome, west of Calgary, Roxana Petroleums No. 1, section 8-24-7w5, is in the Banff shales below 2,790 feet after getting an unexpected gas show at 2,780 feet. Production is anticipated at the Devonian lime contact around 3,050 feet.

Golden Gate Oils, Ltd., organized by Chinese interests in Alberta and British Columbia, has located No. 1, west in SE section 12-16-3w5, on the Pekisko structure in the south end of the Highwood-Sinclair area, a mile south of the E. P. Ranch and immediately west of the Christie-Imperial well, which got strong shows of light crude above the lime. J. W. Townsend is managing director, and will start drilling this summer.

On the Watson structure north and west of Lundbreck, Bealmore Oil, Ltd., of Vancouver, is preparing to drill south of Mar Jon No. 3, this month.

On the Mill Creek structure west of Pincher Creek, Weymarn Petroleums No. 2, LSD 5, section 7-6-1w5, bottoming at 5,960 feet, has drilled out cement plug and is bailing for production test. Considerable light crude is being brought up with the rotary fluid. Alberta Gas & Fuel Co., a Henry L. Doherty subsidiary, which drilled four deep tests in the Pincher Creek area, and a series of structure tests, is reported resuming geological work.

Pouce Coupe Operations

In the Pouce Coupe district, in the northern foothills west of Peace River, Guardian Oil Co. has located No. 1 in section 13-80-13w6, on acreage secured from Canada-Empire Crude Oil Syndicate of Calgary. The company holds 5,080 acres adjoining Northwest Co. No. 1 gasser in LSD 7, section 26-80-13w6, completed in 1923 by Imperial Oil, Ltd., at 3,057 feet with a reputed gas flow of 10,000,000 feet a day. Officers of Guardian Oil Co. are: President, J. I. Hill, Calgary; secretary, J. J. O'Connor, Calgary; treasurer; M. J. Howey, Cereal, Alberta. Geological information indicates below 3,057 feet three potential oil horizons, the Dakota sandstone, the cavernous Triassic limestone and the Devonian. The latter is the producing horizon of the Fort Norman field farther north. Drilling equipment will be moved to location this summer.

Border Fields

In the Twin River area south of Lethbridge, the outfit from Sunshine Oils No. 1 on the Del Bonita structure has been moved to Del Bonita Associated Oils No. 1, LSD 9, section 10-2-20w4, and is drilling into the Madison limestone from 3,988 feet. Sunshine Oils will participate in a test on the Ross Lake structure, northwest of the Del Bonita field.

In the Taber field, Plains Petroleum Corp. No. 3, LSD 11, section 25-9-17w4, 1,350 feet south of the discovery well, is below 50 feet. Plains No. 3 has been located in section 26-9-17w4, a half mile west of No. 2. Plains No. 1 discovery well, LSD 14, section 29-9-17w4, has cased in production to localize water conditions and deepen to 3,271 feet, proving the Clancey sand in which crude was encountered over 75 feet thick. The hole is now on top of the Cut Bank sand and may be deepened to the basal Ellis-Madison contact, where the Cole-Hunter well, 2½ miles farther north, encountered oil shows at 3,310 feet. After deepening, oil from the upper Clancey sand will be recovered by gun-perforating the casing.

Lloydminster Field

In the Alberta end of the Lloydminster field, Dina Oil & Refining Co. No. 1, LSD 14, section 9-45-1w4, has encountered a strong show of heavy crude around 1,700 feet.

In the Saskatchewan end, Triangle Oil & Gas Co. No. 1, a half mile south of Lloydminster, has encountered a good gas flow in the lower sand, with about 440 pounds rock pressure. Derrick is being moved about a half mile west for No. 2.

Drilling Contractors

(Continued from Page 87)

Another rotary is on a wildcat test at the Shepherds Mott dome in Matagorda County for the Continental Oil Co.

Of the 26 new locations announced for the Texas Gulf Coast the past week only one was a wildcat, the rest being within proven fields. The wildcat is in the Friendswood area of northern Brazoria County on D. J. Settegas lease in the Perry and Austin Survey. It will be drilled by the Humble Oil & Refining Co.. Most of the new work was started in the Hastings field in Brazoria County and the Nome field in Jefferson County. Eight locations were reported from the Hastings field by Stanolind Oil & Gas Co. and Humble Oil & Refining Co. The Sun Oil Co. made five locations at Nome. The rest of the work was announced for the Anahuac, Barbers Hill, Seabreeze, Turtle Bay, Amelia, Big Hill and Esperson fields.

He's right! If pump repair men had to depend on jobs from slush pump owners using the SHEAR-RELIEF Valve their repair business would be rotten. Field records will show that. Damaged slush pumps are just about a thing of the past under SHEAR-RELIEF Valve protection. Pump over-pressures, so hazardous to slush pumps and parts, rotary hose connections, etc., are relieved by the shearing of the nail when pressure reaches the set point. The extent of the damage is the sheared nail. And that goes for boiler feed and other pumps for lower pressure service . . . . for the SHEAR-RELIEF Valve is made in both high and low pressure types.

FLUID PISTON SLUSH PUMPS
ABERCROMBIE PUMP CO.
GULF BLDG. HOUSTON TEX.

SHEAR-RELIEF VALVE

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil, No. 1-22 Capitan, Santa Barbara Co.	32- 5-30	2,880	O.S. drlg.
Hancock-Bush, No. 1-B Santa Maria, Santa Barbara	26-10-34	5,167	flow. 4,000 b.d.
Sed Oil, No. 1 Mills, Santa Maria, Santa Barbara Co.	27-10-34	1,194	sd. sh. drlg.
Cohn & Mitchell, No. 1-G Santa Maria, Santa Barbara	18-10-34	3,770	sd. sh. drlg.
Union Oil, No. 3-M Santa Maria, Santa Barbara Co.	30-10-33	2,572	sd. sh. drlg.
Union Oil, No. 1-R Santa Maria, Santa Barbara Co.	21-10-34	4,245	sd. sh. drlg.
Union Oil, No. 3-V Santa Maria, Santa Barbara Co.	30-10-33	4,225	sd. sh. drlg.
Union Oil, No. 3-23-E Santa Maria, Santa Barbara	23-10-34	3,638	pump. 320 b.d.
Union Oil, No. 18 Orcutt, Santa Barbara Co.	26- 9-34	4,107	bailing
Rice Ranch Oil. No. 4 Orcutt, Santa Barbara Co.	23- 9-34	3,780	fishing
Valley Oil, No. 1 Casmalia, Santa Barbara Co.	20- 9-34	2,340	cleaning out
Arnold Oil, No. 2 Los Alamos, Santa Barbara Co.	8- 8-33	2,687	br. sh. drlg.
Field Gasoline. No. 2-C Gato Ridge, Santa Barbara	4- 8-32	1,065	sd. sh. drlg.
Petrol Corp., No. 43-A Gato Ridge, Santa Barbara Co.	9- 8-32	3,888	reaming
York Oil, No. 3-A Lompoc, Santa Barbara Co.	33- 8-34	1,250	will deepen
Nine Springs Oil, No. 1 Los Olivos, Santa Barbara Co.	9- 7-30	3,310	cmtd. 2,745
Oatman Mining, No. 1 Mesa, Santa Barbara Co.	28- 4-27	2,050	will P.B.
Petroleum Securities, No. 5 Ranch, Shiells, Ventura	3- 3-19	4,552	sd. sh. drlg.
Texas Co., No. 129 Shiells, Ventura Co.	4- 3-19	4,812	P.B. 3,317
Texas Co., No. 132 Shiells, Ventura Co.	4- 3-19	4,127	swabbing
Union Oil, No. 16 Bardsdale, Ventura Co.	12- 3-20	4,580	sd. sh. drlg.
Condor Oil, No. 1 Sespe, Ventura Co.	6- 4-19	1,825	br. sh. drlg.
Ivers, H. A., No. 14 Star, Sespe, Ventura Co.	1- 4-20	876	sd. sh. drlg.
Topa Topa Oil, No. 2 Sespe, Ventura Co.	33- 5-19	3,460	sd. sh. drlg.
Speik Oil, No. 2 Sespe, Ventura Co.	33- 5-19	2,451	br. sh. drlg.
Colima Oil, No. 2 Sespe, Ventura Co.	25- 5-19	2,560	rd. sh. drlg.
Pacific Western Oil, No. 8 Temescal, Ventura Co.	4- 4-18	2,821	sd. sh. drlg.
Val, Giovani, No. 1 Ojai, Ventura Co.	4- 4-21	312	hd. sd. drlg.
Texas Co., No. 1 Saticoy, Ventura Co.	31- 3-21	982	sd. sh. drlg.
Continental Oil, No. 3 Padre Canyon, Ventura Co.	7- 3-23	7,650	hd. sh. drlg.
Continental Oil, No. 7 San Miguelito, Ventura Co.	23- 3-24	5,625	recmtd. 5,490
C. C. M. Oil, No. 2 Padre Canyon, Ventura Co.	23- 3-24	6,465	redrlg. 3,952
Continental Oil, No. 3 Padre Canyon ,Ventura Co.	15- 3-24	6,600	sd. sh. drlg.
El Rio Oil, No. 1 Oxnard, Ventura Co.	6- 1-21	3,024	sd. sh. drlg.
Tidewater A. O., No. 31 V.L.W., Ventura, Ventura	24- 3-23	3,410	sd. sh. drlg.
Tidewater A. O., No. 29 Lloyd, Ventura, Ventura	27- 3-23	7,320	P.B. 7,230
Tide Water A. O., No. 60 Lloyd, Ventura, Ventura	27- 3-23	6,198	sd. sh. drlg.
Tide Water A. O., No. 64 Lloyd, Ventura, Ventura	27- 3-23	7,080	flow. 230 b.d.
Tide Water A. O., No. 81 Lloyd, Ventura, Ventura	27- 3-23	7,600	cleaning out
Tide Water A. O., No. 137 Lloyd, Ventura, Ventura	27- 3-23	7,350	hd. sh. drlg.
Shell Oil, No. 91 Taylor, Ventura, Ventura Co.	30- 3-23	6,900	sd. sh. drlg.
Shell Oil, No. 35 Gosnell, Ventura, Ventura Co.	28- 3-23	8,892	O.S. drlg.
General Pet., No. 17 Bernard, Ventura, Ventura Co.	23- 3-23	7,335	hd. sh. drlg.
Den Pet., No. 1 Devils Den, Kern Co.	20-25-19	4,274	br. sh. drlg.
Texas Co., No. 11-9 Theta, Lost Hills, Kern Co.	11-26-20	2,048	P.B. 1,950
Amerada Pet., No. 4 Blackwell Corner, Kern Co.	17-26-19	990	hd. sh. drlg.
Franco Western Oil, No. 13 McKittrick, Kern Co.	8-30-22	2,274	O.S. drlg.
East Puente Oil, No. 2-11 McKittrick, Kern Co.	11-30-21	1,248	O.S. drlg.
Seaboard Oil, No. 1 Wasco, Kern Co.	26-27-24	9,159	cmt. pipe
Belridge Oil, No. 3-35 North Belridge, Kern Co.	35-27-20	7,197	sd. sh. drlg.
Belridge Oil, No. 24-35 North Belridge, Kern Co.	35-27-20	8,225	cmtd. 8,156
Continental Oil, No. 9 North Belridge, Kern Co.	36-27-20	5,250	sd. sh. drlg.
Tide Water Associated, No. 6 North Belridge, Kern	34-27-20	5,690	br. sh. drlg.
Texas Co., No. 1 Martin, North Belridge, Kern Co.	22-27-20	5,048	redrlg. 3,691
Honolulu Oil, No. 13 Round Mountain, Kern Co.	20-28-29	1,190	sd. sh. drlg.
Honolulu Oil, No. 20 Round Mountain, Kern Co.	20-28-29	1,923	flow. gas
Link Oil, No. 1 Conry, Round Mountain, Kern Co.	30-28-29	1,195	sd. sh. drlg.
Eastmont Oil, No. 2 Round Mountain, Kern Co.	16-28-29	1,880	cmtd. 1,840
Shell Oil, No. 14 Freeman, Round Mountain, Kern Co.	20-28-29	1,757	rig. to pump
Shell Oil, No. 1 Estate, Round Mountain, Kern Co.	16-28-29	1,820	sd. sh. drlg.
Republic Pet., No. 1 Cal Tech, Kern Front, Kern Co.	24-28-27	1,936	pump. 180 b.d.
Apex Pet., No. 10-2 Kern Front, Kern Co.	10-28-27	2,193	pump. 150 b.d.
Oil, Inc., No. 7-2 Kern Front, Kern Co.	13-28-27	1,289	P.B. 1,247
General Pet., No. 53 Young, Kern Front, Kern Co.	13-28-27	1,989	sd. sh. drlg.
Barnhart & Morrow, No. 4 K.C.L., Kern Front, Kern	11-28-27	1,955	O.S. drlg.
California Star Oil, No. 8-40 Kern Front, Kern Co.	22-28-27	2,629	sd. sh. drlg.
Texas Co., No. 8 Lehman, Kern Front, Kern Co.	23-28-27	2,125	tested wet
Sunset Oil, No. 1 Union Avenue, Kern Co.	17-30-28	6,198	gr. sd. drlg.
Wilshire Oil, No. 1 F. P., Union Avenue, Kern Co.	36-29-27	4,050	sd. sh. drlg.
Ring Oil, No. 29-2 Bowles, Mount Poso, Kern Co.	29-26-28	1,736	sd. sh. drlg.
C. C. M. Oil, No. 1 Carter, Mount Poso, Kern Co.	7-27-27	2,287	hd. sh. drlg.
Framac Oil, No. 1 Brown, Mount Poso, Kern Co.	22-27-27	1,351	sd. sh. drlg.
Chevalier, J. J., No. 3 S.P., Mount Poso, Kern Co.	3-27-28	1,475	cleaning out
Desert Glow Oil, No. 1 Mount Poso, Kern Co.	14-27-27	1,254	bailing
Hobbee Oil, No. 1 Mount Poso, Kern Co.	14-27-27	1,304	P.B. 1,216
Hub Oil, No. 1 Mount Poso, Kern Co.	8-28-28	3,319	idle
Vanguard Oil, No. 7 Baker, Mount Poso, Kern Co.	33-27-28	1,770	redrlg. 1,452
Shell Oil, No. 19 Security, Mount Poso, Kern Co.	16-27-28	1,682	cleaning out
Banducci, L .J., No. 2-T Fruitvale, Kern Co.	36-29-27	3,792	deepening
Western Gulf Oil, No. 4-S.W., Fruitvale, Kern Co.	27-29-27	3,174	sd. sh. drlg.
Wilbur, V.R.G., No. 1 Fruitvale, Kern Co.	22-29-27	3,587	hd. sd. drlg.
Sandy Oil, No. 2 Fruitvale, Kern Co.	26-29-27	3,200	idle
Pal-Pen Oil, No. 2 Fruitvale, Kern Co.	23-29-27	3,197	pump. 130 b.d.
Mohawk Pet., No. 4-23 K.C.L., Fruitvale, Kern Co.	23-29-27	3,090	gr. sd. drlg.
Crude Oil Prod., No. 1 Fruitvale, Kern Co.	21-29-27	4,225	gr. sd. drlg.
Meridian Oil, No. 3-F Fruitvale, Kern Co.	23-29-27	3,134	cmtd. 3,108
American Expl., No. 1-G Mountain View, Kern Co.	18-30-29	4,792	P.B. 4,722
American Expl., No. 1-C Mountain View, Kern Co.	18-30-29	2,971	sd. sh. drlg.
Savoy Oil, No. 2-W Mountain View, Kern Co.	34-30-29	3,990	sd. sh. drlg.
Tracy Drlg., No. 1-B Mountain View, Kern Co.	19-30-29	5,005	gr. sd. drlg.
Ohio Oil, No. 5-D Mountain View, Kern Co.	33-30-29	5,443	sd. sh. drlg.
Hogan Pet., No. 4 Symons, Mountain View, Kern Co.	5-31-29	6,188	cleaning out
Hogan Pet., No. 3 Bankline, Mountain View, Kern Co.	4-31-29	4,991	sd. sh. drlg.
Greer, P. H., No. 2 Perrel, Mountain View, Kern Co.	9-31-29	4,061	sd. sh. drlg.
Mohawk Pet., No. 4 Earl, Mountain View, Kern Co.	4-31-29	4,971	sd. sh. drlg.
Monterey Expl., No. 6 Duff, Edison, Kern Co.	15-30-29	3,605	P.B. 3,370
North American, No. 4 Brown, Edison, Kern Co.	14-30-29	1,652	sd. sh. drlg.
Cajalco Pet., No. 1 Brown, Edison, Kern Co.	9-30-30	1,831	sd. sh. drlg.
Metro Oil, No. 2 Edison, Kern Co.	6-30-29	2,376	sd. sh. drlg.
Arkelo Oil, No. 1 Lerdo, Kern Co.	23-28-26	10,050	fish. D.P.
Union Oil, No. 1-34 Rio Bravo, Kern Co.	34-28-25	8,528	br. sh. drlg.
Continental Oil, No. 1 Rosedale, Kern Co.	12-29-26	8,600	hd. sd. drlg.
Standard Oil, No. 11-2 Greeley, Kern Co.	20-29-26	8,339	P.B. 7,682
Standard Oil, No. 11-4 Greeley, Kern Co.	20-29-26	5,575	sd. sh. drlg.
Standard Oil, No. 11-5 Greeley, Kern Co.	20-29-26	7,773	sd. sh. drlg.
Standard Oil, No. 12-1 Greeley, Kern Co.	30-29-26	7,898	sd. sh. drlg.
Union Oil, No. 3 San Emidio, Kern Co.	28-11-22	3,100	sd. sh. drlg.
Shell Oil, No. 21-14 Old River, Kern Co.	14-30-25	8,398	sd. sh. drlg.
Shell Oil, No. 58-29 Ten Section, Kern Co.	29-30-26	7,170	sd. sh. drlg.
Ohio Oil, No. 2-E Ten Section, Kern Co.	6-30-26	6,760	sd. sh. drlg.
Superior Oil No. 8 Ten Section, Kern Co.	11-30-26	12,618	dry; abd.
C. C. M. Oil, No. 2-W.P., Midway-Sunset, Kern Co.	28-32-23	2,150	C.P. 2,040
C. C. M. Oil, No. 34-21 Midway-Sunset, Kern Co.	21-32-23	2,700	reaming
Pattiway Oil, No. 2 Midway-Sunset, Kern Co.	12-11-24	1,572	sd. sh. drlg.
B-Zone Oil, No. 1 Midway-Sunset, Kern Co.	22-32-23	4,197	br. sd. drlg.
Signal Oil, No. 5-W Midway-Sunset, Kern Co.	8-11-23	1,274	sd. sh. drlg.
Colby, L. W., No. 1 Midway-Sunset, Kern Co.	12-11-24	1,497	br. sh. drlg.
Ethel D Oil, No. 43 Midway-Sunset, Kern Co.	36-12-24	640	sd. sh. drlg.
Standard Oil, No. 47-33-D Midway-Sunset, Kern Co.	33-32-24	2,950	sd. sh. drlg.
Standard Oil, No. 51-33-D Midway-Sunset, Kern Co.	33-32-24	140	sd. sh. drlg.
Standard Oil, No. 126-33-D Midway-Sunset, Kern Co.	33-32-24	3,097	pump 848 b.d.
Oil Producers, Inc., No. 2 Midway-Sunset, Kern Co.	7-11-23	1,591	sd. sh. drlg.
Shell Oil, No. 3 McKeon, Midway-Sunset, Kern Co.	22-32-23	2,067	rig. to pump
Tide Water A. O., No. 5-P.C., Midway-Sunset, Kern Co.	32-31-23	3,155	P.B. 3,139
Merritt-Annex Oil, No. 5 Fried, Midway-Sunset, Kern	25-12-24	970	sd. sh. drlg.
Valley Oil, No. 1 Midway-Sunset, Kern Co.	18-32-23	3,172	sd. sh. drlg.
Texas Co., No. 22 Midway-Sunset, Kern Co.	32-32-24	3,102	reaming
U. S. Pumping Equip., No. 5 Midway-Sunset, Kern Co.	12-11-24	1,171	sd. sh. drlg.
General Pet., No. 49-B Midway-Sunset, Kern Co.	24-31-23	4,495	bailing
Hancock Oil, No. 6 Midway-Sunset, Kern Co.	8-11-23	3,192	rig. to pump
Quality Oil, No. 5-C Midway-Sunset, Kern Co.	22-32-23	2,830	br. sh. drlg.
Quality Oil, No. 2 W.P., Midway-Sunset, Kern Co.	27-32-23	1,956	O.S. drlg.
Honolulu Oil, No. 52 Midway-Sunset, Kern Co.	14-32-24	3,514	P.B. 3,217
Hoyt, Otis, No. 1 Midway-Sunset, Kern Co.	7-11-23	1,617	cleaning out
Evans, Hugh, No. 16 Midway-Sunset, Kern Co.	35-32-23	2,320	bailing
Richfield Oil, No. 7-H Crampton, Elk Hills, Kern Co.	1-31-24	2,997	sd. sh. drlg.
Reserve Oil & Gas, No. 33-4 Tejon, Kern Co.	33-11-19	4,540	O.S. drlg.
Wilshire Oil, No. 1 Tejon, Kern Co.	5-10-19	4,426	resume work
Ohio Oil, No. 2 Tejon, Kern Co.	21-11-19	8,710	br. sh. drlg.
Union Oil, No. 2 King, Kettleman North, Fresno Co.	29-21-17	8,500	flow. 380 b.d.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	10,340	hd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing)
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

K. N. D. A., No. 56-28-J Kettleman North, Fresno Co.	28-21-17	8,145	flow. 2,400 b.d.
K. N. D. A., No. 67-28-J Kettleman North, Fresno Co.	28-21-17	6,497	br. sh. drlg.
K. N. D. A., No. 78-28-J Kettleman North, Fresno Co.	28-21-17	7,450	sd. sh. drlg.
K. N. D. A., No. 2-34-J Kettleman North, Fresno Co.	34-21-17	6,980	br. sh. drlg.
K. N. D. A., No. 32-34-J Kettleman North, Fresno Co.	34-21-17	7,010	cmtd. 7,009
K. N. D. A., No. 61-4-P Kettleman North, Fresno Co.	4-22-17	7,898	sd. sh. drlg.
Standard Oil, No. 41-33-J Kettleman North, Fresno	33-21-17	4,874	sd. sh. drlg.
Standard Oil, No. 81-33-J Kettleman North, Fresno	33-21-17	8,046	gr. sd. drlg.
Standard Oil, No. 4-3-P Kettleman North, Fresno Co.	3-22-17	5,491	sd. sh. drlg.
Standard Oil, No. 78-3-P Kettleman North, Kings	3-22-17	7,875	sd. sh. drlg.
Tembior Oil, No. 1-B Kettleman Middle, Kings Co.	25-23-18	5,935	redrlg. 5,895
Clare, A. S., No. 1 Corcoran, Kings Co.	30-20-22	992	cleaning out
Dudley-Kettleman Oil, No. 2 Dudley Ridge, Kings Co.	11-24-20	1,050	reaming
Tembior Oil, No. 1 Panorama, San Luis Obispo Co.	22-32-21	1,590	gr. sd. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,652	hd. sh. drlg.
Gretna Corp., No. 1 Islay, San Luis Obispo Co.	24-30-10	1,586	basement
Shell Oil, No. 1 Pleyto, Monterey Co.	34-24-10	P.B. 8,750	
Shell Oil, No. 2 Pleyto, Monterey Co.	34-24-10	8,662	may abdn.
Texas Co., No. 2 Eureka, Humboidt Co.	22- 3-1	7,708	fish. bit
Amerada Pet., No. 1 Marks, Rio Vista, Solano Co.	24- 4-2	4,450	flow. gas
Amerada Pet., No. 2 Marks, Rio Vista, Solano Co.	22- 4-2	2,493	sd. sh. drlg.
Tide Water A. O., No. 1 Sargent, San Benito Co.	5-12-4	6,921	P.B. 5,988
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15-1	5,810	fish. D.P.
Trico Oil & Gas Co., No. 1 Tipton, Tulare Co.	36-21-25	4,337	Schist
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,709	cleaning out
Standard Oil, No. 1 Middle River, San Joaquin Co.	24- 1-5	3,196	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Richfield Oil, No. 1 Elsie, El Segundo, Los Angeles	12- 3-15	170	sd. sh. drlg.
Richfield Oil, No. 1 S.F., El Segundo, Los Angeles	18- 3-14	7,640	completing
Ohio Oil, No. 4 El Segundo, Los Angeles Co.	7- 3-14	1,961	sd. sh. drlg.
Ohio Oil, No. 5 El Segundo, Los Angeles Co.	7- 3-14	3,770	sd. sh. drlg.
Texas Co., No. 2-2 El Segundo, Los Angeles Co.	17- 3-14	7,750	dry; idle
Texas Co., No. 2 Security, El Segundo, Los Angeles	18- 3-14	7,263	cleaning out
Standard Oil, No. 1 Refy, El Segundo, Los Angeles Co.	13- 3-15	7,090	Schist
Republic Pet., No. 8 El Segundo, Los Angeles Co.	18- 3-14	7,408	cmtd.
Signal Finance, No. 1 Hawthorne, Los Angeles Co.	10- 3-14	9,395	cleaning out
Calizoo Oil, No. 1 S.L.A., Los Angeles Co.	16- 3-13	5,121	hd. sd. drlg.
Weber-Butler Oil, No. 2 Torrance, Los Angeles Co.	16- 4-14	4,528	reaming
C. C. M. Oil, No. 34-T Torrance, Los Angeles Co.	16- 4-14	3,859	br. sh. drlg.
McLaren & Assoc., No. 1 Palos Verdes, Los Angeles	27- 4-14	3,992	redrlg. 1,950
Shell Oil, No. 90 Reyes, Dominguez, Los Angeles Co.	33- 3-13	9,598	fish. D.P.
Shell Oil, No. 91 Reyes, Dominguez, Los Angeles Co.	33- 3-13	981	cmtd. 976
Union Oil, No. 50 Callender, Dominguez, Los Angeles	33- 3-13	10,435	cleaning out
Union Oil, No. 52 Callender, Dominguez, Los Angeles	33- 3-13	6,764	flow. 228 b.d.
Union Oil, No. 55 Callender, Dominguez, Los Angeles	33- 3-13	3,891	sd. sh. drlg.
Union Oil, No. 7 Carson, Dominguez, Los Angeles	33- 3-13	7,957	swabbing
Union Oil, No. 47 Hellman, Dominguez, Los Angeles	33- 3-13	1,161	sd. sh. drlg.
Barnsdall Oil, No. 12 O'Dea, Rosecrans, Los Angeles	18- 3-13	6,568	flow. 350 b.d.
Union Oil, No. 16 Rosecrans, Los Angeles Co.	18- 3-13	6,901	sd. sh. drlg.
Macrate, A. N., No. 2 Rosecrans, Los Angeles Co.	18- 3-13	2,181	sd. sh. drlg.
Universal Consd., No. 1-T Rosecrans, Los Angeles Co.	18- 3-13	4,994	sd. sh. drlg.
Bolsa Chica Oil, No. 1 Rosecrans, Los Angeles Co.	20- 3-13	4,897	sd. sh. drlg.
Metropolitan Oil, No. 1 Playa Del Rey, Los Angeles	34- 2-15	6,497	dry; abd.
Union Oil, No. 17 D.R., Playa Del Rey, Los Angeles	27- 2-15	6,001	pump. 100 b.d.
Union Oil, No. 18 D.R., Playa Del Rey, Los Angeles	27- 2-15	3,691	sd. sh. drlg.
Burt, A. G., No. 1 Newhall, Los Angeles Co.	36- 4-17	1,610	sd. sh. drlg.
Holbrook Pet., No. 1 Newhall, Los Angeles Co.	28- 4-16	5,390	fish. D.P.
General Pet., No. 3 Ford, Wilmington, Los Angeles	4- 5-13	5,355	deep test
General Pet., No. 6 Ford, Wilmington, Los Angeles	4- 5-13	3,410	sd. sh. drlg.
General Pet., No. 11 Ford, Wilmington, Los Angeles	4- 5-13	418	sd. sh. drlg.
General Pet., No. 3-P Wilmington, Los Angeles Co.	4- 5-13	3,580	sd. sh. drlg.
General Pet., No. 3-T Wilmington, Los Angeles Co.	4- 5-13	3,450	sd. sh. drlg.
Bankline Oil, No. 29-P.T., Wilmington, Los Angeles	33- 4-13	3,168	sd. sh. drlg.
Bankline Oil, No. 32-P.T., Wilmington, Los Angeles	33- 4-13	3,073	sd. sh. drlg.
Bankline Oil, No. 7-2 Wilmington, Los Angeles Co.	33- 4-13	3,508	sd. sh. drlg.
Burnoel Oil, No. 1-7 Wilmington, Los Angeles Co.	33- 4-13	3,210	sd. sh. drlg.
Crude Oil Drlg., No. 1-M Wilmington, Los Angeles	33- 4-13	3,160	sd. sh. drlg.
Don Oil, No. 1 Wilmington, Los Angeles Co.	33- 4-13	2,793	sd. sh. drlg.
Graham-Loftus Oil, No. 1-P Wilmington, Los Angeles	33- 4-13	2,152	sd. sh. drlg.
Gauthier Oil, No. 2 Wilmington, Los Angeles Co.	33- 4-13	3,740	sd. sh. drlg.
Hall, Inc., No. 15-7 Wilmington, Los Angeles Co.	32- 4-13	1,951	sd. sh. drlg.
Hall, Inc., No. 484-1 Wilmington, Los Angeles Co.	33- 4-13	2,997	sd. sh. drlg.
Jergins Trust, No. 1 Wilmington, Los Angeles Co.	34- 4-13	3,448	completing
Jergins Trust, No. 2 Wilmington, Los Angeles Co.	34- 4-13	3,469	completing
Jergins Trust, No. 6 Wilmington, Los Angeles Co.	34- 4-13	1,942	P.B. 600
Jergins Trust, No. 7 Wilmington, Los Angeles Co.	34- 4-13	3,462	O.S. drlg.
Jergins Trust, No. 12 Wilmington, Los Angeles Co.	34- 4-13	3,020	sd. sh. drlg.
Midland Pet., No. 5 Wilmington, Los Angeles Co.	5- 5-13	3,701	sd. sh. drlg.
Leal, G. V., No. 1 Wilmington, Los Angeles Co.	33- 4-13	3,492	pump. 185 b.d.
Olympic Ref., No. 3 fee, Wilmington, Los Angeles Co.	33- 4-13	3,525	rig. to pump
O'Donnell, J. E., No. 41 Wilmington, Los Angeles Co.	32- 4-13	3,475	sd. sh. drlg.
Pac. Western, No. 1 Petsec, Wilmington, Los Angeles	33- 4-13	2,994	sd. sh. drlg.
Pac. Western, No. 2 Petsec, Wilmington, Los Angeles	33- 4-13	3,035	sd. sh. drlg.
Pac. Western, No. 1-W Wilmington, Los Angeles Co.	33- 4-13	2,830	sd. sh. drlg.
Packard Pet., No. 20-8-1 Wilmington, Los Angeles Co.	33- 4-13	3,596	P.B. 3,565
Packard Pet., No. 20-8-3 Wilmington, Los Angeles Co.	33- 4-13	3,615	sd. sh. drlg.
Pongratz Oil, No. 2 Ronan, Wilmington, Los Angeles	33- 4-13	3,577	completing
Ring Oil, No. 4 Wilmington, Los Angeles Co.	33- 4-13	2,521	sd. sh. drlg.
Royalty Service, No. 1-B-SF Wilmington, Los Angeles	33- 4-13	2,570	sd. sh. drlg.
Royalty Service, No. 1-B Wilmington, Los Angeles	33- 4-13	2,991	sd. sh. drlg.
Royalty Service, No. 469-1 Wilmington, Los Angeles	33- 4-13	2,930	sd. sh. drlg.
Selegna Pet., No. 1 Wilmington, Los Angeles Co.	34- 4-13	3,000	sd. sh. drlg.
Sovereign Oil, No. 4 Wilmington, Los Angeles Co.	33- 4-13	1,791	sd. sh. drlg.
Union Pacific, No. 12 Wilmington, Los Angeles Co.	4- 5-13	3,714	O.S. drlg.
Union Pacific, No. 13 Wilmington, Los Angeles Co.	4- 5-13	3,562	sd. sh. drlg.
Union Pacific, No. 14 Wilmington, Los Angeles Co.	3- 5-13	3,934	P.B. 3,651
Union Pacific, No. 15 Wilmington, Los Angeles Co.	34- 4-13	3,860	sd. sh. drlg.
Union Pacific, No. 21 Wilmington, Los Angeles Co.	34- 4-13	3,060	sd. sh. drlg.
Union Pacific, No. 24 Wilmington, Los Angeles Co.	4- 5-13	2,552	sd. sh. drlg.
Union Pacific, No. 26 Wilmington, Los Angeles Co.	33- 4-13	1,772	sd. sh. drlg.
Union Pacific, No. 30 Wilmington, Los Angeles Co.	33- 4-13	2,675	sd. sh. drlg.
Julian, C. A., No. 1 Koch, Walnut, Los Angeles Co.	5- 2-9	1,610	sd. sh. drlg.
Richfield Oil, No. 2 Ciocca, Montebello, Los Angeles	5- 2-11	3,325	sd. sh. drlg.
Richfield Oil, No. 1 Estrada, Montebello, Los Angeles	5- 2-11	4,974	sd. sh. drlg.
Texas Co., No. 17 Baldwin, Montebello, Los Angeles	6- 2-11	5,265	sd. sh. drlg.
Universal Consd., No. 1-F Montebello, Los Angeles	5- 2-11	5,455	O.S. drlg.
Texas Co., No. 21-F Long Beach, Los Angeles Co.	19- 4-12	4,750	sd. sh. drlg.
Mitchell, A. D., No. 3 Plymouth, L. Beach, L. Angeles	19- 4-12	1,951	sd. sh. drlg.
Jergins Trust, No. 29-M Long Beach, Los Angeles Co.	19- 4-12	3,005	reaming
Richfield Oil, No. 5 Frye, Long Beach, Los Angeles	19- 4-12	1,765	sd. sh. drlg.
General Pet., No. 27 Santa Fe Springs, Los Angeles	5- 3-11	4,796	P.B. 4,126
Union Oil, No. 100 Santa Fe Springs, Los Angeles Co.	6- 3-11	10,789	fish. D.P.
Standard Oil, No. 28 S.G., Seal Beach, Orange Co.	11- 5-12	6,332	sd. sh. drlg.
Tide Water A. O., No. 16-B Seal Beach, Orange Co.	11- 5-12	4,582	cmtd. 4,577
Lucky Strike Oil, No. 8 Huntington, Orange Co.	2- 6-11	2,630	redrlg. 2,330
Texas Co., No. 9 Brown, Huntington, Orange Co.	11- 6-11	3,832	testing
Tide Water A. O., No. 55 M. K., Huntington, Orange	2- 6-11	3,615	P.B. 3,597
West American, No. 14 Huntington, Orange Co.	34- 5-11	4,530	sd. sh. drlg.
W. P. R. Oil, No. 3 Huntington, Orange Co.	35- 5-11	1,162	sd. sh. drlg.
Orco Oil, No. 5 Huntington, Orange Co.	2- 6-11	4,697	redrlg. 3,951
Standard Oil, No. 14 Thomson, Huntington, Orange	12- 6-11	2,710	sd. sh. drlg.
Union Oil, No. 9-C Huntington, Orange Co.	34- 5-11	3,987	sd. sh. drlg.
Commander Oil, No. 1 Newport, Orange Co.	29- 6-10	7,690	br. sh. drlg.
Shell Oil, No. 4-1 Columbia, Olinda, Orange Co.	9- 3-9	2,687	sd. sh. drlg.
Cox, M. A., No. 1 East Coyote, Orange Co.	15- 3-10	5,435	reaming
Bandini Pet., No. 1-B East Coyote, Orange Co.	24- 3-10	4,032	tested wet
Bartholomae Oil, No. 4 East Coyote, Orange Co.	22- 3-10	4,550	fish. D.P.
Kelly, Thomas, No. 11 East Coyote, Orange Co.	24- 3-10	3,725	sd. sh. drlg.
Union Oil, No. 20 Hole, East Coyote, Orange Co.	22- 3-10	5,371	sd. sh. drlg.
Standard Oil, No. 2-10 East Coyote, Orange Co.	22- 3-10	4,575	sd. sh. drlg.
Standard Oil, No. 2-25 Kraemer, Richfield, Orange	32- 3-9	1,481	sd. sh. drlg.
Arrowhead Oil, No. 1-B Richfield, Orange Co.	29- 3-9	2,965	sd. sh. drlg.
Bachman Pet., No. 1-K Richfield, Orange Co.	29- 3-9	4,271	deepening
Joseph, Arthur, No. 1 Richfield, Orange Co.	29- 3-9	3,740	P.B. 3,710
Union Oil, No. 10 Morse, Richfield, Orange Co.	29- 3-9	2,990	sd. sh. drlg.
Union Oil, No. 9 Coyle, Richfield, Orange Co.	29- 3-9	3,305	sd. sh. drlg.
Principal Oil, No. 1 Richfield, Orange Co.	36- 3-9	2,684	sd. sh. drlg.
Richfield Consd. Oil, No. 1 Yorba, Orange Co.	22- 3-9	976	sd. sh. drlg.
Signet Oil, No. 1 Yorba, Orange Co.	21- 3-9	1,450	sd. sh. drlg.
West American Oil, No. 1 Tustin, Orange Co.	14- 5-9	3,763	hd. sd. drlg.

KANSAS

Week Ending June 5 (Descriptions are East unless marked otherwise)

Barber County

Barbara Oil Co. No. 1-27 Holmes, C NW NW sec. 27-33-13w. Drlg. 2,540 ft.

Pryor & Lockhart No. 1 Gant, C SE sec. 7-31-13w. K.C. L. 3,745 ft.; circulating at 3,950 ft.

Barton County

S. E. Bailey No. 1 Hammeke, NE NE SW sec. 12-18-12w. C.O. 2,190 ft.; O.W.D.D.

J. B. Hanna No. 1 Luce, SW cor. sec. 21-20-13w. R.U.R.

Sam Murphy No. 1 Beck, NE cor. sec. 17-17-12w. Rig.

Republic Nat. Gas Co. and Continental Oil Co. No. 1 Moeder, NE NE SW sec. 25-17-13w. Ran 10-in. csg. to 2,173 ft.

Shell Pet Corp. No. 1 Schneider, CNL S½ SE sec. 12-16-14w. Set 7-in. csg. 660 ft.

Stanolind O. & G. Co. No. 1 Struder, SE SE SW sec. 26-16-13w. Sil. 3,402-12 ft.; 1,000 ft. O.I.H. in 5 hrs.

Butler County

Kahn et al No. 1-A Madden, SW SW NE sec. 27-23-4. K.C. 2,065 ft.; T.D. 2,212 ft.; pot. 30 B.O. with 60 B.W.

Simpson Oil Co. et al No. 1-A Dennis, NE NE SW sec. 15-26-6. Fsg. 915 ft.

Maurer & Saco Oil Co. No. 1 Connell, NE NE SW sec. 27-29-5e. R.U.

Vickers Pet. Co. No. 1 Voth, C N½ NE NE sec. 32-24-4e. H.F.W. 3,147-53 ft.; 5-in. csg. 3,255 ft.; drlg. 3,257 ft.

Chautauqua County

C. L. Brosius et al No. 1 Garrett, NW SW NW sec. 26-32-11. Spd. and S.D.

Buffington and Cohen No. 1-A Hayes, SE NE SE sec. 10-33-13. Miss. 1,537 ft.; S. O.&G. 1,617 ft.; U.R. 6-in. csg.

Robinson et al, No. 1 Foster, SW cor. sec. 6-33-12. Miss. L. 1,665 ft.; S.D. 1,725 ft.

Ira Scott et al No. 1 Lamba, SW NW NE sec. 18-33-13. D.&A. 2,006 ft.

E. J. Shaffer No. 1 Nuckolls, NW cor. sec. 12-33-19. D.&A. 2,540 ft.

Cowley County

B. B. Blair et al No. 1 Miller, NE NW SW sec. 14-32-5. Drlg. 1,700 ft.

Elmer Ash et al No. 1 Bolack, NW NW SE sec. 22-32-6. Drlg. 3,260 ft.

Murta & Wilson No. 1 Turner, NE NE NW sec. 30-32-6. Drlg. sd. 2,220-47 ft.; shot with 90 qts.; swbd. 69 bbls. in 3 hrs.; will run lever.

McCoy et al No. 1 Anderson, SE NW NE sec. 34-34-6. Ran 10-in. csg. to 1,755 ft.

Palmer et al No. 1 Ogrosky, SE SE NW sec. 31-32-5. Drlg. 2,006 ft.

Trees Oil Co. No. 1 Hornbeck, NW cor. sec. 5-33-4. 20-in. csg. 67 ft.; drlg. 360 ft.

Tulsa Oil Co. et al No. 1 Dillon, NW NW NE sec. 28-34-3. Rig.

Edwards County

Royal Pet. Co. et al No. 1 Krupp, NW NW SE sec. 18-24-19w. Drlg. 5,024 ft.

Elk County

G. T. Berry No. 1 Zimmerman, SW NE SE sec. 15-30-10. 8-in. csg. 1,356 ft.; drlg. 1,410 ft.

Republic Nat. Gas Co. No. 1 Glasscock, SE NE SW sec. 19-31-11. 10-in. csg. 728 ft.; drlg. 745 ft.

Ellis County

Austin Drlg. Co. No. 1 Karlin, NW cor. sec. 13-12-18w. Rig.

Billings No. 1 Smith, SE SE NW sec. 14-12-16w. Drlg. 2,915 ft.

Bridgeport Machine Co. et al No. 1 Froelick, NW NW SE sec. 4-13-16w. Pay 3,-260-65 ft.; acd.; swb. 232 B.O. in 3 hrs. pulled rig in; rebidg. rig.

Lario O. & G. Co. et al No. 1 Henderson, SW SW NE sec. 27-11-18w. Sil. 3,581 ft.; 38 bbls. wtr. per hr., 3,585-87 ft.; S.D.O.

J. J. Muth No. 1 Penney, NW SE SE sec. 29-14-18w. Drlg. 315 ft.

Noble Pet. Corp. No. 1 O'Laughlin, NW NW SE sec. 13-12-19w. Sil. 3,900-43 ft.; T.D.; wtr.; abd.

Twin Drlg. Co. et al No. 1 Craig, NE NE SE sec. 6-11-16w. D.&A. 3,610 ft.

Earl Wakefield et al No. 1 Burnett, NW NW NE sec. 1-11-18w. R.U.

Ellsworth County

Frost et al No. 1 Dolechek, NE NE SW sec. 36-14-8w. D.&A. 3,515 ft.

Orville Lea No. 1 Larkin, NW cor. sec. 15-16-8w. Drlg. 2,830 ft.

Greenwood County

B. & B. Oil Co. No. 1 Webb, C NE SE sec. 3-26-13. D.&A. 1,455 ft.

Ward McGinnis et al No. 1 Henly Estate, SW cor. sec. 25-25-9. Miss. L. pay 2,156-71 ft.; rng. 5-in. csg.

Western Kansas O. & R. Co. No. 1 Taylor, SE SE SW sec. 6-27-12. S.D. 100 ft.

Hamilton County

Denver Prod. & Ref. Co. No. 1 Porter, SW SW NE sec. 30-25-41w. Drlg. 3,-236 ft.

Harper County

Carter Oil Co. et al No. 1 Seihart Est., C SW NW sec. 4-34-8w. Sil. 5,202-29 ft.; set 6-in. 4,680 ft.; shot csg. 4,565-4,670 ft.; acd.; bailed 65 gal. wtr., 5 gal. oil.

Harvey County

Bell O. & G. Co. et al No. 1 Austin, SE NE NE sec. 28-23-1e. Rig.

Hollow & Bradley Bros. No. 1 Neufeldt, NE SE NW sec. 7-22-1w. Drlg. 2,950 ft.

E. I. Shaffer et al No. 1 Epp, SE cor. sec. 15-23-3w. Rig.

Simpson & Noble et al No. 1 Pierce, SW SE NE sec. 25-22-2w. Drlg. 1,260 ft.

Kearny County

J. L. Murphy No. 1 Masonic Home, C NW sec. 1-26-36w. Drlg. 500 ft.

Logan County

W. H. Boucher No. 1 Wright, C SE SE sec. 12-15-35w. Miss. 4,655 ft.; S.O. 4,-850-60 ft.; drill pipe stuck 4,910 ft.; abd.

Lyon County

Davis & Sory No. 1 Byrd, SW SW SE sec. 32-21-11. S.D. 590 ft.

McPherson County

C. E. Ash Drilling Co. No. 1 Broman, NE NE NW sec. 19-17-4w. Rig.

Bradley Bros. No. 1 Barnhoit, SW SW SE sec. 30-30-5w. 8-in. csg. 2,883 ft.; drlg. 2,896 ft.

Fred C. Frank et al No. 1 Doles, SE NW NE sec. 12-19-1w. Fsg. 1,045 ft.

Smith et al No. 1 Larson, NW NW SW sec. 35-18-5w. Drlg. 2,160 ft.

Wamhoff et al No. 1 Nuse, SE NE SW sec. 18-18-4w. Drlg. 672 ft.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. U.R. 6-in. csg. 3,275 ft.

Ness County

Jones & Lane No. 1 Page Milling Co., SE SE NW sec. 36-18-26w. Rig.

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. S.D. 4,379 ft.

Pratt County

Atlantic Ref. Co. et al No. 1 Runyon, SW NW NE sec. 11-27-13w. 12-in. csg. 241 ft.; drlg. 2,010 ft.

Reno County

Imo O. & G. Co. and others No. 1 Watkins, SE cor. sec. 14-22-7w. Drlg. 1,700 ft.

Clyde Pulse No. 1 Payne, SW NW SE sec. 4-22-7w. C.O. to 3,287 ft.

Rice County

Comanche Oil Co. No. 1 Cramm, SW SW SE sec. 15-19-9w. Drlg. 2,735 ft.

L. E. Douglass No. 1 Coyne, NE SE SE sec. 24-21-8w. Drlg. 3,525 ft.

John Hanna et al No. 1 Fulton, NW NW NE sec. 24-10-6w. 5 B.W. 3,220-30 ft.; set 6-in. 3,348 ft.

Hipple et al No. 1 Wernet, NE NE NW sec. 11-20-6w. Drlg. 2,552 ft.

Fred Phillips et al No. 1 Hubenett, SW NW SW sec. 23-20-6w. Set 8-in. csg. 3,-200 ft.; C.O.

Shell Pet. Corp. et al No. 1 Haxton B, NE NE SW sec. 29-18-9w. D.&A. 3,279 ft.

C. E. W. Skiles et al No. 1 Helmer, NW NW NE sec. 7-19-18w. Drlg. 2,285 ft.

Stanolind O. & G. Co. No. 1 Mooney, NE NE SW sec. 5-19-10w. Cg. 3,081 ft.

Union Oil & Refining Co. et al No. 1 Baker, SW SW NE sec. 33-20-6w. S.O. 3,432-36 ft.; wtr. 3,436-40 ft.; U.R.

W. E. Witt et al No. 1 Fair, NW SE SE sec. 4-22-8w. Drlg. 2,125 ft.

Rooks County

Basin Oil Co. No. 1 Baxa, NE cor. sec. 23-9-17w. S.D. 3,630 ft.

Brunson Drlg. Co. et al No. 1 Casey, SE SE NE sec. 22-9s-16w. Drlg. 2,930 ft.

C. R. Craft et al No. 1 Ziegler, NE NE SW sec. 8-10-16w. Topeka 2,850-60 ft.; R.U. S.T.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. T.D. 3,304 ft.; fsg.

S. C. Hoel et al No. 1 Ives, SW SW NE sec. 11-7-18w. Drlg. 1,362 ft.

Jones Bros. No. 1 Wiss, NW cor. sec. 8-10-18w. Drlg. 3,741 ft.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Fsg. 3,818 ft.

Rush County

Carter Oil Co. et al No. 1 Brosch, C N½ N½ SE sec. 21-18-16w. Drlg. 1,580 ft.

Duwe & Brouk No. 1 Lebsack, SE SE NE sec. 13-16-16w. Drlg. 2,650 ft.

S. A. Murphy et al No. 1 Roth, NW NW SW sec. 21-16-18w. Drlg. 2,635 ft.

Westgate-Greenland Oil Co. et al No. 1 Greenwalt, NW NW NE sec. 19-19-16w. Sil. 3,879 ft.; set 7-in. csg.; R.U.S.T.

Russell County

Aylward et al No. 1 Jones SE SE NW sec. 23-14-13w. Drlg. 2,855 ft.

Billings et al No. 1 Boxberger, NE NE SE sec. 21-14-14w. Set 13-in. csg. 595 ft.; drlg. 755 ft.

Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. D.&A. 3,098 ft.

Goldstein and Vernon Oil & Gas Co. No. 1 Steinert Estate, NE SE NW sec. 34-15-15w. Set 8-in. csg. 2,356 ft.; drlg. 2,465 ft.

S. A. Murphy et al No. 1 Daines, SE SE SW sec. 36-15-15w. U.R. 6-in. csg. to 3,164 ft.

Scott County

Olson Drlg. Co. et al No. 1 Nolan, NW NW NE sec. 13-19-33w. Fsg. 4,777 ft.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. D.&A. 3,272 ft.

Roxana Drlg. Co. et al No. 1 Woodman, SW NW SW sec. 26-26-1w. S.D. 2,469 ft.

E. B. Shawver No. 1 Furman, SW NE SE sec. 24-29-3w. Drlg. 1,302 ft.

Stafford County

Atlantic Ref. Co. No. 1 Kachelman, SE NW NW sec. 13-25-14w. 10-in. csg. 542 ft.; drlg. 1,122 ft.

W. P. Faulkner No. 1 Schulz, SE SE NE sec. 6-22-13w. R.U.

Rose Spring Drlg. Co. et al No. 1 Gray, NW cor. sec. 11-24-13w. 10-in. csg. 277 ft.

Sumner County

John Burton et al No. 1 Springate, NE NE SW sec. 30-33-2e. Rig.

Glimac Oil Co. et al No. 1 Proud, SW SE SE sec. 33-30-1w. Miss. 3,591 ft.; R.U.S. T. 3,632 ft.

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. Base Miss. 4,250 ft.; S.D. 4,255 ft.

Texas Co. No. 1 Harper, NE SW SE sec. 9-20-3w. Sil. 4,369 ft.; U.R. 6-in. csg. to 4,388 ft.

Trego County

Rose Spring Drlg. Co. No. 1 Duncan, SE SE SE sec. 35-12-21w. H.F.W. 3,874-76 ft.; D.&A.

W. I. Southern, Inc., No. 1 Latimer, NW NW SE sec. 19-15-22w. Set 8-in. csg. 3,725 ft.; R.U.S.T.

Woodson County

M. B. Allen No. 1 Flack, NE NE NW sec. 1-26-14. Sd. 1,313-42 ft.; T.D. 2,300,000 ft. gas.

B. & B. Oil Co. No. 1 Lockard, NW NW NE sec. 2-26-13e. Machine.

Morris et al No. 1 Koening, SE SE NW sec. 35-24-15. Drlg. 400 ft.

Pottawatomie County

Atlantic Ref. Co. No. 1 Dooley, SE SE SW sec. 9-11-5. Drlg. 1,940 ft.

Mid-Continent Pet. Corp. No. 1 Ne-Thah-Pea-Se, SE SE NE sec. 24-11-4. Drlg. 2,410 ft.

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Billington-B, SW SE SW sec. 32-9-3e. Hogshooter 3,395 ft.; drlg. 4,330 ft.

Pushmataha County

Erle Halliburton et al No. 1 Bagwell, SW NE NE sec. 30-3s-15e. Cg. 2,065 ft.

Texas County

Cabot Carbon Co. No. 1 Calvert, C sec. 14-3n-16ecm. Drlg. 2,643 ft.

Cabot Carbon Co. No. 1 Castro, C SE sec. 19-3n-17ecm. T.D. 2,570 ft.; 3,600,000 ft. gas at 2,690 ft.; plugging back.

Missouri Valley Gas Corp. No. 1 well, C sec. 17-6n-14ecm. S.D. 2,257 ft.

Washita County

John Koberg No. 1 Harms, NW NW NE sec. 6-10-16w. Drlg. 800 ft.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders et al No. 3-A Redden, SE SW SW sec. 19-1n-15e. Abd. 1,260 ft.

Carter County

Shell Pet. Corp. No. 1 Smith, NW SE NE sec. 30-5s-1e. Drlg. 1,070 ft.

Coal County

Carter Oil Co. No. 1 Cyalton, C W½ SE SW sec. 27-2n-9e. Cellar.

Comanche County

E. B. Hane No. 1 Duper, NW cor. sec. 21-2n-13w. S.D. 250 ft. for csg.

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4n-11w. Drlg. 2,650 ft.

Hollis County

Penn State Oil Co. No. 1 Cole, C W½ SW NW sec. 21-2n-26w. S.O. 2,675-93 ft.; base of red beds 1,370 ft.; Cisco 3,625 ft.; Cisco sd. 3,915 ft.; G.W. 4,145-4,958 ft.; D.&A. 5,575 ft.

Jackson County

Ace Gutowsky No. 1 Howard, NE SW NW sec. 10-3n-19w. Drlg. 325 ft.

Johnston County

Patton et al No. 1 McCrummins, C SW SW NE sec. 16-1s-6e. Drlg. 1,165 ft.

Jefferson County

Heenan & Coe et al No. 1 Rose, C SW SW sec. 1-5s-5w. T.D. 5,024 ft.; D.&A.

Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. T.D. 1,842 ft.; S.D.

Love County

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; P.B. 6,927 ft.; set 5½-in. 6,624 ft.; W. O.C.

McCurtain County

Wilcox O. & G. Co. No. 1 Neuman, SW SE SW sec. 30-7s-23e. Spd.

Marshall County

Stuart & Taylor No. 1 Chestnut, NE cor. sec. 23-8s-5e. T.D. 788 ft.; P.B. 787 ft.; tstd. 30 B.O. and 6 B.W. in 24 hrs.; S.D.

Murray County

O. O. Owens No. 1 Fryer, NE SE NE sec. 34-1s-3e. Drlg. 2,007 ft.

J. Ben Russell No. 1 fee, SE SE NW SE sec. 9-2s-3e. Drlg. 2,183 ft.

Stephens County

Wm. Angle No. 1 Lang, SW SW NE sec. 24-1n-7w. Drlg. 3,897 ft.

Carter Oil Co. No. 1 Harley, C NE NE sec. 24-2s-4w. Drlg. 5,810 ft.

Coline Oil Co. No. 1 Johnson, C SW SE SE NE sec. 1-2n-8w. T.D. 6,500 ft.; R.U.R.

Helmerich & Payne No. 1 Graham, SW SW NE sec. 12-1n-5w. T.D. 5,014 ft.; M.I.R.T.

Geo. L. Pace et al No. 1 Tah-Su-Dah, SE NW SW sec. 27-1s-9w. T.D. 2,707 ft.

Ed Parsons No. 1 Blake, C SW NW sec. 22-2n-8w. T.D. 377 ft.; rmg. hole to run pipe.

Tillman County

Cavens et al No. 1 Southerland, SW SW NW sec. 35-4s-16w. R.U.R.

Lynn Oliver No. 1 Relling, SE SE NW sec. 22-1s-15w. T.D. 1,387 ft.; D.&A.

Magnolia Pet. Co. No. 1 Brown, SW SE NE sec. 21-3s-18w. Canyon 3,480 ft.; Strawn 4,335 ft.; drlg. 6,145 ft.

OKLAHOMA

Week Ending June 5

NORTHERN OKLAHOMA

Alfalfa County

Olson Drlg. Co. et al No. 1 Acre, C SW NE sec. 14-24-11w. O.W.P.B.; fsg. 3,700 ft.

Beckham County

Carter Oil Co. No. 1 Bingham, NE cor. sec. 31-8-26w. Drlg. 1,928 ft.

Carter Oil Co. No. 1 Porter, C SW SW sec. 36-10-25w. T.D. 3,635 ft.; tstd. dry; S.D.O.

Mid-American Oil Co. No. 1-A Biscoe, SW cor. sec. 28-8-22w. Fsg. 1,945 ft.

Caddo County

Clyde Becker et al No. 1 Pharris, SE SE NW sec. 24-6-12w. Drlg. 2,970 ft.

Cleveland County

W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. T.D. 6,195 ft.; S.D. for wtr.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. T.D. 2,935 ft.; drlg. on iron.

Garfield County

Ohio Oil Co. No. 1 State, SW cor. sec. 13-23-3w. Arbuckle at 5,000 ft.; T.D. 5,200 ft.; ran Schlumberger test; S.D.O.

Grant County

Carter Oil Co. et al No. 1 Crisman, C W½ SW NW sec. 16-25-3w. Rig.

Carter Oil Co. et al No. 1 Kolarik, NW SW sec. 4-26-5w. R.U.R.

Haskell County

Continental Oil Co. No. 1 Ferguson, SW SE NE sec. 33-8-20. Drlg. 4,485 ft.

Hughes County

C. E. Beal No. 1 Eason, NE NE NW sec. 7-9-11. Booch sd. 2,120-38 ft., dry; drlg. 2,154 ft.

Cap Rock Oil Co. No. 1 Parks, SW SW SE sec. 34-7-8. Drlg. 4,020 ft.

Carter Oil Co. No. 1 Hamilton, C W½ NE SW sec. 33-4-9. Bromide at 5,772 ft.; sd. 5,918-21 ft.; good showing of oil; cd. 5,922-27 ft.; McLish 5,845 ft.; sd. 5,980-82 ft.; D.S.T. 700 ft. of oil in D.S. and 400 ft. of oily mud in 2 hrs.; set packer at 5,945 ft.

H. H. Ellis No. 1 Tiger, NW SE SW sec. 29-6-8. Set 12½-in. csg. 60 ft.; drlg. 80 ft.

Mid-West Prod. Co. No. 1 Hill, SE NW SE sec. 13-9-9. Deepening from 2,942 ft.; dry sds. at 2,961-64 ft. and 3,006-14 ft.; gas sd. at 3,039-55 ft.; 2,500,000 ft. of gas; drlg. 3,065 ft.

E. H. Moore, Inc., No. 1 Buck, NW SW SW sec. 21-8-10. Gilcrease series 2,723 ft.; set 10½-in. pipe 2,723 ft.

Kay County

Higdon et al No. 1 Nieman, NE NW NE sec. 9-26-3e. T.D. 519 ft.; drlg. by tools.

Kiowa County

Argus Pet. Co. No. 1 Osborne, NW cor. NE sec. 9-7-16w. T.D. 1,275 ft.; R.U. to pmp.

Kiowa Oil Corp. No. 1 Finder, C SW NE sec. 4-6-20w. Drlg. 200 ft.

Latimer County

Clark Drlg. Co. et al No. 1 Wilson, C SE SE sec. 15-5-18. Drlg. 5,686 ft.

Lincoln County

Exchange Drlg. Co. No. 1 Dowell, SE SE NW sec. 10-14-6. Prue 3,006-57 ft.; good S.O.; T.D. 3,065 ft.; to shoot.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. T.D. 4,975 ft.; wating on new cable.

Eason Oil Co. et al No. 1 Sisters, SW cor. sec. 24-17-1w. First Wilcox 5,402 ft.; drlg. 5,423 ft.

Helmerich & Payne et al No. 1 Randall, SW SW NW sec. 24-16-1w. Layton 3,572-3,640 ft.; drlg. 4,297 ft.

Noble County

Lincoln Oil Co. et al No. 1-A Neil, NE cor. sec. 15-23-2w. Wilcox 4,681 ft.; T.D. 4,826 ft.; fsg.

Magnolia Pet. Co. No. 1 Forsythe, SE SE SW sec. 23-21-2w. First Wilcox 5,275 ft.; second Wilcox 3,383-93 ft., T.D.; D. &A.

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Johnson, NW NW SE sec. 4-20-2w. Drlg. 2,850 ft.

Summit Drlg. Co. et al No. 1 Dolezal, SE SE SW sec. 8-22-1w. First Wilcox 5,135 ft.; T.D. 5,183 ft.; drill pipe stuck.

Oklahoma County

Sunray Oil Co. No. 1 Dickson, NW cor. sec. 17-11-1e. M.I.T.

Osage County

Helmerich & Payne et al No. 1 Osage, NE NE SW sec. 13-23-6. Miss. 2,823 ft.; T.D. 2,825 ft.; D.&A.

Midco Oil Corp. No. 1 Osage, SE SE NW sec. 22-23-6e. T.D. 1,320 ft.; underdigging 10-in.

Pawnee County

Carter Oil Co. No. 1 Wells, C E½ SE NW sec. 30-23-5. Straightening hole; T.D. 850 ft.

Payne County

Bill Riddle No. 1 Van Zandt, NW NW SE sec 16-18-3e. Drlg. 2,300 ft.

Pontotoc County

Blackstock et al No. 1 Thompson, NE cor. sec. 4-1n-7e. T.D. 4,580 ft.; Bromide 4,425-4,530 ft.; re-acidzd. with 10,000 gal. 15 bbls. of oil gross in 20 min. on air-lift; died; deepened to 4,573-80 ft. flwd. 38 bbls. of oil in 16 hrs. with drill pipe in hole; will run tbg.

Boettcher O. & G. Co. No. 1 Cann, SE NW NE sec. 25-4n-7e. Drlg. 1,070 ft.

Caloma Oil Co. No. 1 Brentz, SE NE SW sec. 4-1n-6. T.D. 1,010 ft.; S.D.

Clark Drlg. Co. et al No. 1 Richardson, SE SE NW sec. 30-4-8. Drlg. 1,862 ft.

Mid-Continent Pet. Corp. No. 1 Schoup, SW NW SW sec. 24-5-6. R.U.R.

Norbla Oil Co. No. 1 Kennedy, SE SE NE sec. 13-2-5. T.D. 80 ft.; W.O.C.

Papoose Oil Co. et al No. 1 Jones, NW SE NW sec. 2-4-5. Viola 2,595 ft.; T.D. 2,840 ft.; run Schlumberger; S.D.O.

Roodhouse et al No. 1 Booth, SE NW SE sec. 20-2-6. Drlg. 3,370 ft.

Southern Oil Co. No. 1 Young, NE NE SE sec. 17-3-7. Drlg. 40 ft.

Summit Drlg. Co. et al No. 1 Whittaker, NW NE SE sec. 31-4-6. Bromide 2,985 ft.; sd. 3,120 ft. and 3,195-3,212 ft.; both dry; McLish 3,240 ft.; cg. 3,370 ft.

Union Dev. Co. No. 1 Abbott, SW NW NE sec. 34-3-6. Set 12½-in. pipe at 133 ft.; drlg. plugs; T.D. 250 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo—Rodessa

Blackwell O. & G. Co. No. 3 Neugent, sec. 8-23-16; O.W.D.D. R.U. to D.D.; T.D. 6,074 ft.

Drillers, Inc., No. 1 Glassell-Means, SW NE SE sec. 9-23-15. T.D. 6,076 ft.; tstg.

J. E. Jones No. 1-A Parker, SW cor. sec. 4-23-16. Drlg. 3,592 ft.

R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Cg. 10,020 ft.

R. W. Norton No. 5 Starke, SW sec. 17-23-16. Drlg. 5,658 ft.

R. W. Norton No. 6 Starke, NE sec. 17-23-16. 13-in. 2,409 ft.; W.O.C.S.

Standard Oil of La. No. 3 Armistead Comm., SE SE SE sec. 4-23-16. 7-in. 5,921 ft.; T.D. 6,021 ft.; W.O.C.S.

Standard Oil Co. No. 2 L. J. Kaempfer, NE NW SW sec. 9-23-16. T.D. 5,988 ft.; prep. test.

Standard Oil Co. No. 2 Sarah Kaempfer, SW SW NE sec. 9-23-16. T.D. 5,721 ft.; fsg. for D.P.

Standard Oil Co. No. 3 Sarah Kaempfer, NW NW SE sec. 9-23-16. Drlg. 5,231 ft.

Surf Oil Co. No. 1 Allison, NE sec. 8-23-16. Drlg. 3,962 ft.

Surf Oil Co. No. 1 Upchurch, NE sec. 8-23-16. Drlg. 2,012 ft.

United Gas No. 7 fee 574, SW NW sec. 16-23-16. Drlg. 2,200 ft.

United Gas No. 8 fee 574, NW cor. sec. 16-23-16. Loc.

United Gas No. 11 Pitts Unit, SE NW sec. 13-23-16. Drlg. 5,318 ft.

United Gas No. 2 Starke, C SW SW sec. 9-23-16. Drlg. 3,535 ft.

United Gas No. 5 Young, NW sec. 27-23-16. P.B. from 6,790 ft. to 5,650 ft.; W.O.

N. LOUISIANA WILDCATS

Bienville Parish

DeSota O. & G. Co. No. 1 Ashley, SW SE sec. 15-16-10w. 10-in. cmtd. 2,100 ft.; W.O.C.S.

Hunt Oil Co. et al No. 1 Bodcaw, SE sec. 30-14-5w. Drlg. 2,550 ft.

Lide & Greer No. 1 W. J. Smelley, SE NW SW sec. 18-16-4w. 7-in. 7,093 ft.; T.D. 7,110 ft.; W.O.C.S.

Bossier Parish

Arkansas-La. No. 2-B Werner, NE cor. sec. 7-17-11. Drlg. 3,712 ft.

Ray P. Overless et al No. 1 Birenhern, NW NW NE sec. 23-21-14. S.D. 98 ft.

Producers O. & G. Co. No. 1 Hill Est., E¼ NE¼ sec. 8-17-11. S.D. 1,090 ft.; rig repair.

Producers O. & G. No. 1 R. Johnson, NE sec. 5-17-11. Drlg. 4,100 ft.

Triangle Drlg. Co. No. 1 C. Howell, NW sec. 26-17-12. Drlg. 1,234 ft.

United Gas No. 1 S. L. Herold, 660 ft. S and W. NE sec. 31-17-4. Drlg. 3,817 ft.

United Gas No. 1-A Jeter Unit, SW sec. 24-17-12. Drlg. 4,308 ft.

United Gas No. 3 L. Schmitt, NW sec. 14-17-12. M.I.M.

United Gas No. 2-I H. C. Skannal, SW sec. 25-17-12. 7-in. 5,146 ft.; T.D. 5,156 ft.; W.O.C.S.

Caddo Parish

J. G. Abney No. 1 Thigpen & Herold, NW SW sec. 15-21-15. T.D. 1,060 ft.; T.A.

W. D. Ambrose No. 1 Pender, NW NE SW sec. 11-20-15. Cg. 2,180 ft.

Calatex O. & G. No. 3-A Agurs, SW cor. sec. 6-16-6. 5-in. 2,450 ft.; T.D. 2,466 ft.; W.O.C.S.

Chew & Chew No. 1 Standard Oil, SE sec. 32-21-16. 7-in. csg. 935 ft.; T.D. 961 ft.; W.O.C.S.

Paul Cooper No. 2 Rodgers, NW SW SW sec. 11-20-15. 6-in. 2,185 ft.; T.D. 2,204 ft.

D.K.O. Oil Corp. No. 1 Player, SE NW SE sec. 26-21-15. Comp.; pmp.; 21 bbls. oil; 60 bbls. S.W.; T.D. 1,600 ft.

T. B. Donnell No. 4 Stokeley, SW sec. 5-20-16. 6-in. cmtd. 950 ft.; W.O.C.S.

Hancock & Uhlman No. 1 Helpman, sec. 16-21-16. T.D. 1,009 ft.; arg. test.

W. J. Hunter et al No. 1 Stoer, NW SW NE sec. 10-15-15. Cg. 5,600 ft.

F. I. Luckett No. 1 Connell, SW NE sec. 10-20-15. Comp.; pmp. 5 B.P.D.; T.D. 2,252 ft.

Tom Pappas No. 2 Spell, SW sec. 28-21-15. S.D. 832 ft.

H. E. Phillip No. 1 Fuller, NE sec. 26-22-15. Comp.; pmp.; 10 B.P.D.; T.D. 1,034 ft.

W. L. Porter No. 1 Terbune, sec. 15-21-16. T.D. 1,022 ft.; D.&A.

Prairie River Synd. No. 1 Hutchinson, SW

LEGAL

Department of the Interior, U. S. Land Office, Las Cruces, New Mexico. Notice is hereby given that the W½ NW¼ Sec. 17, and the E½ NE¼ Sec. 18, T. 17S., R. 31E, N. M. P. M., containing 160 acres, in the Jackson producing oil and gas field, are offered in a single unit to the qualified bidder of the highest amount offered per acre, the minimum bid being $25 per acre, as a bonus for the privilege of leasing the land under section 17 of the mineral leasing act of August 21, 1935 (49 Stat. 674), at the sliding royalty rate scale in the standard lease form on page 6 of Circular 1386, at the sale to be held in the United States Land Office at Las Cruces, New Mexico, at 10 o'clock A. M., on June 25, 1937. The successful bidder must deposit on the date of the sale with the officer in charge of the sale, a certified check on a solvent bank or cash, for one-fifth of the amount bid by him, and file the showing of qualifications to receive a lease required by section 7 of said Circular 1386. Bidders are warned against violations of the provisions of section 59, U. S. Criminal Code, approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. Register.

NW sec. 15-15-12. Milling 7,665 ft.; T.D. 7,757 ft.

Shreveport Oil Corp. No. 2-D Munslow, SE sec. 5-20-15. Comp.; flw. 10 B.P.D.; T.D. 2,190 ft.

Simplex Oil Co. No. 11 Glassell, NE SW sec. 10-20-15. Drlg. 94 ft.

Simplex Oil No. 5-A Natalee, NE NW SE sec. 10-20-15. T.D. 2,230 ft.; W.O.S.R.

Stanolind O. & G. Co. No. 123 Dillon, NW SE sec. 14-21-15. 7-in. 1,480 ft.; T.D. 1,500 ft.

Stanolind O. & G. Co. No. 124 Dillon, NW SE sec. 14-21-15. Loc.

Stanolind No. 1 Wheritt, SE SW sec. 23-21-15. Comp.; pmp. 45 B.P.D.; T.D. 1,640 ft.

Stewart Williams No. 2 Connell, SW NE sec. 10-20-15. 10-in. 80 ft.

Stewart-Williams No. 3 Iron, SW NE sec. 10-20-15. T.D. 2,197 ft.; D.&A.

Surf Oil Co. No. 2 Self, SE NE SE sec. 10-20-15. Drlg. 1,400 ft.

J. J. Thompson No. 1 Gamm, NE SW NW sec. 35-21-15. T.D. 2,265 ft.; jkd. and abd.

Claiborne Parish

Atlantic Ref. Co. et al No. 1 F. B. King, SE sec. 35-21-5. Drlg. 4,420 ft.

J. B. Bond No. 1 H. E. Patton, W½ NW NW sec. 36-21-5. Drlg. 450 ft.

Gulf Ref. Co. No. 2 Eva Bennett, sec. 31-21-4. Drlg. 5,301 ft.

Gulf No. 1 Henry, S½ NW NE sec. 31-21-4. Drlg. 3,949 ft.

Hollifield & McFarland No. 1 M. Patton, N½ NW SE sec. 31-21-4. Drlg. 4,386 ft.

T. L. James & Co. No. 1 Baker, W½ SE NE sec. 25-21-5. 10-in. cmt. 844 ft.

La. Lse. & Dev. Co. No. 1 R. D. McDonald, W½ NW NW sec. 25-21-5. 10-in. cmt. 841 ft.

Love Pet. Co. No. 2 H. E. Patton, W½ SW SE sec. 36-21-5. 7-in. 5,278 ft.; T.D. 5,306 ft.; W.O.C.S.

Lyons & Neely No. 2 H. E. Patton, W½ NW SW sec. 36-21-5. 5-in. 5,206 ft.; T.D. 5,244 ft.; W.O.C.S.

Lyons & Neely No. 1-B Maggie Patton, W½ SE SW sec. 31-21-4. T.D. 5,279 ft.; rg. 5-in.

Lyons & Neely No. 2-B Maggie Patton, E½ SE SW sec. 31-21-4. Drlg. 4,440 ft.

Lyons & Neely No. 2 Maggie Patton, E½ NW SW sec. 31-24-4. 5-in. cmt. 5,259 ft.; T.D. 5,286 ft.; W.O.C.S.

Magnolia Pet. No. 1 English, S½ SE SW sec. 31-21-4. 7-in. cmt. 5,278 ft.; T.D. 5,298 ft.; W.O.C.S.

Magnolia Pet. Co. No. 2 English, S½ SW NE sec. 31-21-4. 10-in. cmt. 850 ft.

Magnolia Pet. No. 1 H. E. Patton, NW SE SW sec. 36-21-5. Comp.; flw. 18 B.P.H.; T.D. 5,336 ft.

L. O. McMillan et al No. 2 H. E. Patton, W½ SW NW sec. 36-21-5. T.D. 5,257 ft.; rg. 7-in.

L. O. McMillan et al No. 2-A H. E. Patton, N½ NE SW sec. 31-21-4. Comp.; flw. 23 B.P.H.; T.D. 5,315 ft.

McMillian et al No. 2 Roberta Vaughn, N½ NW NE sec. 36-21-5. R.U.

C. R. Schuster et al No. 2 M. S. Patton, S½ NW NE sec. 1-20-5. Drlg. 1,460 ft.

Scouts Oil Co. No. 1 R. Vaughn, E½ NE NW sec. 36-21-5. Drlg. 4,875 ft.

Shreveport Oil Corp. No. 1 Edwards, NE sec. 16-20-5w. Drlg. 3,210 ft.

Standard Oil No. 1 F. B. King, 660 ft. N, 330 ft. W, SE SE NE sec. 35-21-5. Drlg. 4,402 ft.

Sugar Creek Synd. No. 1 Carter Unit, sec. 32-20-5; O.W.D.D. 5-in. cmt. 5,223 ft.; T.D. 5,748 ft.

J. C. Tippett No. 2 H. E. Patton, sec. 36-21-5. Drlg. 2,705 ft.

P. W. Woodruff No. 1-B McDonald, N½ SE NE sec. 36-21-5. 5-in. cmt. 5,258 ft.; T.D. 5,297 ft.; W.O.C.S.

P. W. Woodruff No. 1 T. E. Patton, S½ SE NE sec. 36-21-5. Comp.; flw. 49 B. P. H.; T.D. 5,303 ft.

De Soto Parish

Chamberlin et al No. 1 Lainer, SW NE sec. 29-11-11. T.D. 3,020 ft.; D.&A.

W. T. Coleman No. 1 Prudhomme, NE SW NE sec. 29-12-11. Loc.

Grogan Oil No. 1-A Ramsey, sec. 36-11-11. R.U.

Rio Rajo Oil Co. No. 7 Prudhomme, SE cor. sec. 20-12-11. Comp.; pump 50 bbls. oil, 150 S.W.; T.D. 2,749 ft.

Superior Oil Co. of Okla. No. 1 Joyner, SE NW SW sec. 28-11-12. Drlg. 3,350 ft.

Franklin Parish

Jensen & Bailey No. 1 Grayson, C NE sec. 36-12-6e. 6-in. cmt. 1,700 ft.

Grant Parish

Burkett et al No. 1 Morrison, 156 ft. E and W, NW SW SW sec. 10-9-1e. T.D. 1,525 ft.; will set csg.

R. W. Fair No. 1 R. L. Gray, NW cor. 180-ac. tr. Drlg. 1,525 ft.

H. M. S. Corp. No. 1 McNeely, sec. 21-6n-3w. Drlg. 750 ft.

Harvey Weir No. 1 Calfax Bk. & Tr. Co., NE NW sec. 15-7n-3w. 10-in. cmtd. 160 ft.; W.O.C.S.

Lincoln Parish

J. D. Carruthers No. 1 Aycock, N½ SW SW sec. 6-20-4. R.U.

B. O. D. C. and H. D. Easton No. 1 G. W. Dye, NE NE sec. 21-19-4w. Drlg. 1,850 ft.

Glassell & Glassell No. 1 Gray, SE sec. 16-20-3e. Drlg. 4,690 ft.

Lyons & Neely No. 1 Carruthers, N½ NE NW sec. 6-20-4. Drlg. 2,640 ft.

E. T. Oakes-H. D. Easton and Evans No. 1 R. L. Sanderson, NW SE NW sec. 36-18-1w. Drk.

Natchitoches Parish

J. T. Lent No. 1 Locke, NE SE SW sec. 26-9-9. Drlg. 2,754 ft.

Ouachita Parish

J & H Oil Co. No. 2-A Frost Lbr. Co.; SW NW sec. 36-19-3e. 12-in. cmtd. 180 ft.

Red River Parish

Gulf Prod. Co. No. 41 E. T. Robinson, NW sec. 25-13-11. Drlg. 2,492 ft.

Peria Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 23-12-10. 7-in. cmtd. 1,023 ft.; S.O.; T.D. 1,039 ft.

J. D. Wadley No. 1 McClelland, SE NE sec. 24-13-11. 7-in. cmtd. 2,520 ft.; W. O.C.S.

Sabine Parish

Ellis Prod. Co. No. 1 Wright, NW SW sec. 4-5-12. Drlg.

Kirk-Green-Way Inc. No. 1 Whitney Corp., NW NE sec. 8-9-13. T.D. 5,707 ft.; D.S. showed mud and S.W.; S.D.

Peria Oil Co. No. 1 Brown, SE SW NW sec. 16-9-13. 6-in. cmt. 1,456 ft.

Prod. O. & G. Co. No. 1 Lynch, SW NE SW sec 29-9-13. Pumped off; acid; T.D. 1,608 ft.

Remine et al No. 1 4-L Co., SW SW sec. 7-5-12. R.U.

Roy Drlg. Co. No. 4 Burkett, SE NW SW sec. 10-9-13. Drlg. 1,384 ft.

A. C. Scott No. 1 Bowman-Hicks Lbr. Co., sec. 23-9-13. T.D. 3,098 ft.; tstg.

Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; arg. tst.

Windsor No. 1 H. Brown, NW SW NW sec. 16-9-13. R.U.

Windsor Oil Co. No. 1 S. Brown, SW NW NW sec. 16-9-13. 10-in. 61 ft.

Windsor No. 1 M. Elliott, SE NE NW sec. 17-9-13. R.U.

Tensas Parish

H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE sec. 30-12n-10e. T.D. 798 ft.; blew out after stng. 8 mo.; gauging 30,000,000 ft. gas and 10,000 bbls. wtr.; drld. out bridge and well blew out again and bridged over: T.D. 798 ft.; W.O.; T.D. 798 ft.; blew out again and bridged.

Webster Parish

Magnolia No. 2 D. G. Cox, SW SE NE sec. 22-21-10. Drlg. 7,000 ft.

Magnolia Pet. Co. No. 2 G. W. Cole, NE NW NE sec. 27-21-10. Drlg. 4,845 ft.

Magnolia Pet. No. 6 Ira Cox, NE NE SE sec. 23-21-10. Drlg. 5,197 ft.

Magnolia Pet. Co. No. 2 A. J. McCook, SW sec. 22-21-10. Drk.

Ohio Oil Co. No. 1 S. P. D. Coyle, NW SE SW sec. 23-21-10. Drlg. 8,347 ft.

Ohio Oil Co. No 2 R. M. Coyle, SE sec. 22-21-10. Drlg. 7,673 ft.

Ohio No. 1 S. P. D. Coyle and W. Cox, SW SW SE sec. 23-21-10. Drk.

Ohio Oil No. 1 T. Crichton, Acct. No. 2, SE NE sec. 21-21-10. Drk.

Ohio Oil No. 1 L. M. Gardner, NE sec. 22-21-10. Drlg. 7,040 ft.

Ohio Oil Co. No. 2 A. H. Gray Acct. No. 2, NW sec. 26-21-10. 7-in. cmt. 8,409 ft.; T.D. 8,439 ft.

Ohio Oil Co. No. 2 A. J. Hodges, NE NW SW sec. 23-21-10. 7-in. cmt. 8,490 ft.; T.D. 8,517 ft.

Ohio No. 7-B R. L. Holloway, 586 ft. N, 756 ft. E line, sec. 23-21-10. Drk.

L. R. Skidmore No. 1 Barnett, NE NW SW sec. 29-17-9. T.D. 3,785 ft.; S.D.

Standard Oil of La. No. 1 E. L. Stewart, SE SE SE sec. 32-21-10. 9-in. cmt. 605 ft.; T.D. 6,070 ft.; W.O.C.S.

Woodley Pet. Co. No. 4-B Grav, NE NE sec. 27-21-10. 7-in. cmt. 8,444 ft.; W. O.C.S.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 Brookshire, sec. 66-12s-3e. 18⅝-in. csg. 237 ft.; drlg. sd. 912 ft.

Bay St. Elaine—Terrebonne Parish

F. J. LeBlanc et al No. 1 Wurzlow, sec. 17-22s-18e. T.D. 780 ft.; mixing mud.

Texas Co. No. 14 State, sec. 20-22s-18e. T.D. 5,115 ft.; P.B. and sdtrkd.; drlg. sh. 3,987 ft.

Bayou Cocotriz—Terrebonne Parish

Shell Pet. Corp. No. 1 Pelican, sec. 35-17s-15e. T.D. 9,963 ft.; rmg.

Shell Pet. Corp. No. 2-B Realty Operators, sec. 18-17s-15e. R.U.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 37 Watkins, sec. 8-12s-12w. T.D. 4,648 ft.; salt; P.B. 3,588 ft.; sdtrkd.; drlg. sdy. sh. 4,709 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 41 State, sec. 17-23s-20e. T.D. 4,644 ft.; 7-in. csg. 4,590 ft.; I.P. 1284 B.P.D.; ⅜-in. ck.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 3 Laws Realty Co., sec. 25-12s-9e. T.D. 8,860 ft.; fsg.

Pan American Ref. Co. No. 4 Laws Realty Co., sec. 30-13s-10e. Drk.

Pan American Prod. Co. No. 1 South Coast Corp., sec. 30-13s-10e. T.D. 7,923 ft.; rec. 1,000 ft. of P.L.O. on D.S.T. 7,906-23 ft.; 7-in. csg. 7,906 ft.; flwd. est. 600 bbls. of fluid per day 50% S.W.; will W.O.; P.B. to sdtrk.

Pan American Prod. Co. No. 1 Veeder, sec. 30-13s-10e. Drk.

Cameron Meadows—Cameron Parish

Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 16-14s-13w. S.D. 5,834 ft.; abd.

Darrow—Ascension Parish

Humble O. & R. Co. No. 1 V. E. Landry, sec. 34-10s-2e. T.D. 6,995 ft.; I.P. 31 B. P.H.; ⅜-in. ck.

Kira Oil Co. No. 1 Duplessis, sec. 69-10s-2w. R.U.

Dog Lake—Terrebonne Parish

Texas Co. No. 5 State, sec. 5-22s-16e. 10¾-in. csg. 1,505 ft.; T.D. 6,885 ft.; P.B. and sdtrkd.; drlg sd. and L. 6,993 ft.

Fausse Point—Iberia Parish

Texas Co. No. 3 State, sec. 35-11s-8e. 10¾-in. csg. 1,245 ft.

Four Isle—Terrebonne Parish

Texas Co. No. 9 L.L.&E., sec. 24-21s-16e. R.U.

Garden Island—Plaquemines Parish

Texas Co. No. 21 State, sec. 37-23s-33e. T.D. 5,334 ft.; 7-in. csg. 5,275 ft.; tstg.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 18 Castle, sec. 34-10s-12w. Drlg. sh. 4,165 ft.

Union Sulphur Co. No. 14 Barbe, sec. 1-9s-8w. T.D. 6,738 ft.; 7-in. csg. 6,723 ft.; S.D.; T.A.

Union Sulphur Co. No. 15 Barbe, sec. 1-9s-8w. T.D. 6,730 ft.; P.B. 3,930 ft.; drlg. sd. and sh. 4,534 ft.

Union Sulphur Co. No. 7 Castle, sec. 14-9s-8w. T.D. 7,123 ft.; 7-in. csg. 7,111 ft.

Union Sulphur Co. No. 5 Kaufman, sec. 13-7s-8w. Drlg. sdy. sh. 4,888 ft.

Union Sulphur Co. No. 6 Mayo-Reeves, sec. 12-9s-8w. Drlg. sh. and L. 6,549 ft.

Hackberry—Cameron Parish

Burton-Sutton Joint Interest No. 2-A Duhon, sec. 22-12s-10w. R.U.

W. T. Burton No. 2 R. Vincent, sec. 22-12s-10w. T.D. 4,492 ft.; 7-in. csg. 4,455 ft.

Emanon Oil Co. No. 1 Porter Ellender, sec. 21-12s-10w. Fsg. at 1,656 ft.

Stanolind O. & G. Co. No. 1-B Duhon, sec. 27-12s-10w. Drlg. sh. 3,798 ft.

Stanolind O. & G. Co. No. 4 Duhon, sec. 22-12s-10w. 10¾-in. csg. 1,273 ft.; W. O.C.

Stanolind O. & G. Co. No. 25-B Gulf Land fee, sec. 15-12s-10w. 20-in. csg. 158 ft.; drlg. sh. and L. 6,886 ft.

Stanolind O. & G. Co. No. 4 Lacey, sec. 27-12s-10w. Bldg. drk.

Stanolind O. & G. Co. No. 1 Little, sec. 28-12s-10w. Run 109 ft. 16-in. csg.; abd. 4,634 ft.

Union Sulphur Co. No. 9 Doiron, sec. 37-12s-10w. Drlg. 1,312 ft.

Iowa—Jefferson Davis Parish

Shell Pet. Corp. No. 24 Heyd, sec. 13-9s-7w. T.D. 4,460 ft.; 5-in. csg. 4,460 ft.; perf. csg. 4,373-85 ft.; tstg.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1 Banta, sec. 40-13s-9e. 9⅝-in. csg. 7,030 ft.; cg. wtr. sd. 8,926 ft.

Herton Oil Co. No. 7 Carter, sec. 38-13s-9e. Drlg. sdy. sh. 5,325 ft.

Herton Oil Co. No. 2 Roanes, sec. 40-13s-9e. Drlg. sd. and sh. 4,572 ft.

Jennings—Acadia Parish

Frank W. Bennett et al No. 1 Brethern and Christ Church, sec. 41-7s-2w. Drk.

W. T. Burton No. 1 Robira, sec. 41-9s-2w. T.D. 6,904 ft.; P.B. 6,828 ft.; 7-in. csg. 6,904 ft.; I.P. 650 B.P.D.; ¼-in. ck.

W. T. Burton Oil Co. No. 2 J. J. Roboria, sec. 42-9s-2w. R.U.

Cosmo Pet. Co. No. 1 Jenning Heywood, sec. 41-9s-2w. R.U.

Alfred Glassell No. 1 R. McFarlan, sec. 41-9s-2w. Drlg. sh. and L. 5,900 ft.

Alfred Glassell No. 1 Troushelle, sec. 42-9s-2w. Drlg. sh. 6,830 ft.

Stanolind O. & G. Co. No. 18 Houssiere-Latrielle, sec. 47-9s-2w. 8⅝-in. csg. 5,358 ft.; T.D. 7,072 ft.; 6⅝-in. csg. 7,005 ft.; making 2½ bbls. of distillate per day; killed to W.O.; cg. ahead.

Superior Oil Prod. Co. No. 2 Iowa-Jennings, sec. 41. Drlg. sh. 4,940 ft.

Superior Oil Prod. Co. No. 3 Jennings, sec. 42-9s-2w. Drlg. sh. 6,352 ft.

Superior Oil Prod. Co. No. 3 Wm. Leckiet, T.D. 6,731 ft.; 7-in. csg. 6,665 ft.; I.P. 630 B.P.D.; 11/64-in. ck.

Superior Oil Prod. Co. No. 4 Lecklet, sec 42-9s-2w. Drlg. sh. 5,986 ft.

Superior Oil Co. No. 1 Moresi, sec. 41-9s-2w. Drlg. sd. 4,612 ft.

Lafitte—Jefferson Parish

Texas Co. No. 2 Milling, sec. 20-17s-24e. Dredging canal.

Texas Co. No. 7 Rigolet, sec. 29-17s-24e. Drlg. sd. 10,037 ft.

Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. S.D. 9,902 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 7 Lafourche, sec. 12-18s-25e. R.U.

Leesville—Lafourche Parish

Gulf Ref. Co. No. 2 Allen Land Co., sec. 26-21s-22e. Drlg. sd. 2,443 ft.

Gulf Ref. Co. No. 64 Leesville, sec. 26-21s-10s-9w. T.D. 4,433 ft.; 7⅝-in. csg. 4,374 ft.; I.P. 1,203 B.P.D.; ¾-in. ck.

Texas Co. No. 65 Leesville, sec. 27-21s-22e. T.D. 3,886 ft.; oil sd.

Lockport—Cameron Parish

Magnolia Pet. Co. No. 6 Freeburg, sec. 9-10s-9w. T.D. 6,485 ft.; fsg.

New Iberia—Iberia Parish

Wm. Hellis No. 8 Bernard, sec. 54-12s-7e. S.D. 5,012 ft.

Wm. Hellis No. 3 Schwing, sec. 57-12s-7e. S.D. 4,962 ft.; salt; P.B. and sdtrkd.; drlg. sh. 4,133 ft.

Texas Co. No. 3 Bryant, sec. 25-12s-7e. Spd.

Wm. Hellis No. 9 Bernard, sec. 54-12s-7e. Drlg. sh. 850 ft.

Wm. Hellis No. 5 Bullock-Burke, sec. 52-12s-7e. Drlg. sh. 3,340 ft.

Texas Co. No. 3 Duhe, sec. 26-12s-7e. Drlg. sdy. sh. 2,030 ft.

Texas Co. No. 6-B Hanzen, sec. 54-12s-7e. Drlg. sdy. L. 4,470 ft.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 2 Watkins, sec. 4-6s-5e. Abd. 5,370 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 6 Kratzer, sec 11-9s-4w. T.D. 8,710 ft.; 7-in. csg. 8,708 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. T.D. 6,708 ft.; P.B. 5,373 ft.; S.D. 6,650 ft.

South Roanoke—Jeff Davis Parish

Union Sulphur Co. et al No. 1 T.R.S. Farms Co., sec. 23-10s-4w. 12½-in. csg. 1,835 ft.

South Jennings—Jeff Davis Parish

Stanolind-Amerada Pet. Corp. No. 2 Calcasieu Natl. Bank, sec. 10-10s-3w. 13⅜-in. csg. 1,987 ft.; drlg. sh. 8,277 ft.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co. sec. 20-9s-12w. S.D. 6,433 ft.

St. Martinsville—St. Martin Parish

Tide Water Oil Co. No. 1-C Smedes, sec. 57-11s-6e. Drlg. sh. 8,446 ft.

Tide Water Oil Co. No. 4 Smedes, sec. 57-11s-6e. Drlg. sh. 555 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 Guillery, sec. 34-7s-2w. R.U.

Continental Oil Co. No. 2 Macabees, sec. 22-7s-2w. Drlg. sh. 5,988 ft.

Continental Oil Co. No. 1 Vincent and Welch, sec. 30-7s-2w. T.D. 8,317 ft.; I.P. 59 bbls. in 10 hrs.

Continental Oil Co. No. 8-A Welch, sec. 28-7s-2w. T.D. 8,306 ft.; 5¾-in. csg. 8,306 ft.; I.P. 180 B.P.D.; 5/32-in. ck.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 3 Harang, sec. 8-17s-20e. T.D. 7,718 ft.; D.P. stuck. P.B. 5,154 ft.; drlg. sdy. sh. 7,308 ft.

Pan American Prod. Co. No. 5 Harang, sec. 8-17s-20e. 16-in. csg. 235 ft.; P.B. and S.T.; drlg. 4,590 ft.

Pan American Prod. Co. No. 6 Harang, sec. 8-17s-20e. Drlg. sh. 2,045 ft.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e. T.D. 8,903 ft.; P.B. 8,717 ft.; milling out of csg. at 8,027 ft.; T.D. 8,659 ft.; rmg.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. T.D. 5,426 ft.; left 900 ft. of D.S. in hole.

Humble O. & R. Co. No. 1 Floyd Williams, sec. 34-8s-1e. Cg. sh. 7,987 ft.; O.S. 7,929-44 ft.

J. G. Mayo et al. No. 1 Bank of Commerce, sec. 19-7s-1e. R.U.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg. S.W.; S.D.

Cameron Parish

Humble O. & R. Co. No. 1 Hanzen, sec. 5-12s-6w. 13⅜-in. csg. 3,046 ft.; drlg. sdy. L. 4,327 ft.

Southern Sulphur Co. No. 2 State, sec. 29-15s-10w. S.D. 2,611 ft.

Cameron Parish—Gulf of Mexico

Superior Oil Prod. Co. et al No. 1 State-Gulf of Mexico, 3,800 ft. W, 6,200 ft. S of SE cor. of irregular sec. 4-15s-8w. Loc.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Elliott, sec. 3-9s-2e. 10¾-in. csg. 1,950 ft.

Cavalier Oil Co. No. 1 Jacobs, sec. 69-4s-1w. Abd. 4,442 ft.

East Feliciana—Wild

Koch et al No. 1 Andrews, sec. 69-2s-3e. 10-in. csg. 1,086 ft.; S.D.

Evangeline Parish

Belle Chenney Springs Oil Co. No. 1 Belle Springs Land Dev. Co., sec. 10-2s-1w. Drld. to 2,215 ft.; abd.

Iberia Parish

E. J. Beaullied No. 1 Baez, sec. 35-12s-7e. Drlg. sh. 6,400 ft.

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft.; set 10¾-in. csg. 5,095 ft.; top oil sd. 6,915 ft.; 7-in. csg. 6,930 ft.; cd. salt 7,059-60 ft.; P.B. 5,500 ft.; drlg. sh. and L. 6,295 ft.; no report.

Jefferson Parish

Louisiana Crusader Oil Corp. No. 1 Langley, sec. 36-7s-5w. T.D. 7,450 ft.; P.B. to sdtrk. at 6,868 ft.; core sh. 8,214 ft.

Triangle Oil Co. No. 1 Conroe, sec. 125-12s-11e. T.D. 2,461 ft.; R.U.

Jefferson Davis Parish

Stanolind O. & G. Co. No. 2-B Calcasieu Natl. Bank, sec. 28-7s-3w. 13⅜-in. csg. 1,950 ft.; drlg. sh. and shells 7,167 ft.

Lafourche Parish

Gulf Oil Corp. No. 3 State, sec. 36-23s-21e. R.U.

Fohs Oil Co. No. 1 State Lake, sec. 65-17s-19e. 9⅝-in. csg. 8,384 ft.; oil sd. 9,391-9,406 ft.; rng. csg. to test.

Wm. Hellis No. 1 City of New Orleans, sec. 19-23s-23e. T.D. 7,607 ft.; 7-in. csg. on bttm.; P.B.; perf. csg. 7,303-33 ft.;

tstg.; showed S.W.; perf. csg. 7,270-80 ft.; showed S.W.; S.D.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams sec. 32-52s-19. T.D. 4,668 ft.; rmg.
Tide Water Oil Co. No. 3 Manhattan Fruit Co., sec. 26-21s-30e. Drlg. sh. 2,475 ft.

Rapides Parish

C. L. Decker No. 1 Lee Lbr. Co., sec. 21-5n-3e. S.D. 1,470 ft.
R. D. Webb No. 1 A. M. Brasher, sec. 22-4n-2w. S.D. 5,236 ft.

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg sh. 6,348 ft.
Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; S.D. 3,187 ft.

St. Charles Parish

Amerada Pet. Corp. and La. Ld. & Expl. Co. No. 1 State, sec. 13-15s-20e. Cd. oil sd. 6,828-95 ft.; T.D. 6,915 ft.; run 9⅝-in. csg.

St. Landry Parish

Gulf Oil Corp. No. 1 Haas & Hirsch, sec. 12-6s-7e. Drlg. 424 ft.

St. Martin Parish

Geo. E. Lilly et al No. 1 Martin, sec. 32-9s-7e. Top salt 4,293 ft.; T.D. 4,450 ft.; S.D.
Texas Co. No. 3 State, sec. 14-10s-9e. cmtd. on bttm.; T.D. 8,208 ft.; top salt 8,175 ft.; P.B. 7,600 ft.; top of cmt. plug 7,674 ft.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. T.D. 10,975 ft.; 7⅝-in. csg. 18-in. csg. 101 ft.; T.D. 12,261 ft.; blew out; caught fire; burned for 1 hr. and hole bridged; waiting on drlg. barge.
Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. Drlg. sdy. sh. 10,013 ft.

ARKANSAS

Cleveland County

Tex-Canadian Dev. Co. No. 1 J. E. Moore, SE NE NE sec. 22-9s-10w. 10-in. cmtd. 100 ft.

Dallas County

J. C. Kelly No. 1 Serrells, SE SE SW sec. 35-10-16. S.D. 387 ft.

Hempstead County

H. D. Easton et al No. 1 R. M. Lagrove, C NE NE sec. 5-12-26w. 12-in. cmtd. 131 ft.
E. H. Moore, Inc. No. 1 fee, NE cor. E½ SE¼ sec. 21-14-25. Cg. 3,520 ft.
Shephard & Todd et al No. 1 Smith, NW SW SE sec. 11-11-25. S.D. 1,736 ft.; high water.

Little River County

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. S.D. 2,354 ft.

Lafayette County

Nivla Oil Corp. No. 1 DeLoy, SW SW SE sec. 19-15s-24w. Drlg. 1,500 ft.

Lonoke County

Frank F. Silvers No. 2 Chambers, SW NE NW sec. 17-2n-7w. S.D. 1,012 ft.

Miller County

E. H. Moore No. 2 Dale, 660 ft. N and W, C sec. 24-15-26. 8-in. cmtd. 5,655 ft.; T. D. 5,678 ft.
Standard Oil Co. No. 1 Sarah Harvey, SW SW SW sec. 33-16s-26w. R.U.

Miller County—Rodessa

McClanahan et al No. 1 W. L. Capps, sec. 11-20-28. Drlg. 5,760 ft.

Nevada County

Benedum & Trees No. 1 Grove, sec. 10-14-20. Cg. 4,996 ft.
Berry Asphalt Co. No. 3 W. Haynie, SE NE SW sec. 6-14-20. T.D. 1,166 ft.; W. O.S.R.
Shepard, Traylor & Jones No. 1 Purifey, NE NE sec. 17-11-20. S.D. 583 ft.

Ouachita County

Copenhaver Oil Corp. No. 1 J. E. Evans, C sec. 20-11-19. R.U.
H. H. Taylor No. 1 Joe McCree, NW SW NW sec. 21-13-19. S.D. 2,930 ft.

Pulaski County

A. L. Kilselman No. 2 Kilselman, Jr., SE SE SW sec. 2-1s-13e. S.D. 844 ft.

Union County

Alice-Sydney Oil Co. No. 1 Morgan, NW NE SE sec. 18-18-17. Cg. 5,619 ft.; showings.
Alice-Sydney Oil Co. No. 1 Pewledge Est., SW SW SE sec. 7-18-17. Drk.
E. M. Jones et al No. 1 First Natl. Bank, NW NE NE sec. 19-18-17. Loc.
Lion Oil No. 2-B Edna Morgan, SW NW SE sec. 18-18-17. Cg. 5,694 ft.; showings.
Marine Oil Co. No. 6-E W. B. Thompson, SW NE NE sec. 10-18-13. T.D. 3,585 ft.; W.O.S.R.
W. D. Wingfield et al No. 1 So. Kraft Corp., SW NE sec. 18-16-14. Drlg. 2,860 ft.

TEXAS

Week Ending June 5

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 11-G Wilson, Wm. Harvey Sur. Abd. 4,287 ft.

Hastings—Brazoria County

W. L. Goldston et al No. 2 Thomas Ross, Lot 1, tract f., S. McKissick Sur. 9⅝-in. csg. 1,294 ft.; drlg. sh. 6,060 ft.
Humble O. & R. Co. No. 2 J. T. Baker, Perry & Austin Sur. Drlg. sh. 1,320 ft.
Humble O. & R. Co. No. 12-A Brown, W. H. Snyder Sur. T.D. 6,080 ft.; run csg.
Humble O. & R. Co. No. 2 R. D. Haden, R. Hoppel Sur. 9⅝-in. csg. 1,292 ft.; drlg. sh. 6,057 ft.
Humble O. & R. Co. No. 1 Knack, Perry & Austin Sur. R.U.
Navarro Oil Co. No. 1-A W. F. Beers, Perry & Austin Sur. T.D. 6,065 ft.; 7-in. csg. 5,995 ft.; I.P. 59.1 B.P.D.; ¼-in. ck.
Navarro Oil Co. No. 2-A W. F. Beers, Perry & Austin Sur. Drlg. sh. 4,930 ft.
Navarro Oil Co. No. 2-B W. F. Beers, Perry & Austin Sur. T.D. 6,082 ft.; 7-in. csg. 6,056 ft.; I.P. 542 B.P.D.; ¼-in. ck.
Showers and Moncrief No. 2 Hughey, H. T.&B. Sur. No. 29. Drlg. sh. 5,060 ft.
Stanolind O. & G. Co. No. 3 R. L. Autrey, H.T.&B. Sur. No. 37. R.U.
Stanolind O. & G. Co. No. 1 J. F. Butts, H.&T.B. Sur. T.D. 6,100 ft.; 7-in. csg. 6,017 ft.; I.P. 599 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 1 Mary Condon, H.T.&B. Sur. No. 29. 16-in. csg. 90 ft.; T.D. 6,080 ft.; 7-in. csg. 6,004 ft.
Stanolind O. & G. Co. No. 5 Curkett, H.T. &B. Sur. No. 30. T.D. 6,080 ft.; run 7-in. csg.
Stanolind O. & G. Co. No. 10 Duke, H.T. &B. Sur. No. 36. R.U.
Stanolind O. & G. Co. No. 3 T. C. Edwards, Wm. Henry Sur. Drlg. sh. 2,750 ft.
Stanolind O. & G. Co. No. 2 J. M. Elliott, Wm. Henry Sur. T.D. 6,075 ft.; 5¾-in. csg. 6,053 ft.; I.P. 507 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 5 Grote, A.C. H.&B. Sur. 10¾-in. csg. 1,673 ft.
Stanolind O. & G. Co. No. 3 J. C. Hutchins, H.T.&B. Sur. No. 36. Drlg. sh. 5,619 ft.
Stanolind O. & G. Co. No. 4 Law, H.T.& B. Sur. No. 36. Drlg. sh. 2,599 ft.
Stanolind O. & G. Co. No. 3 L. F. McKibben, H.T.&B. Sur. No. 29. Drlg. sh. and L. 3,755 ft.
Stanolind O. & G. Co. No. 1 Massey, H. T.&B. Sur. No. 29. Drlg. sdy. sh. 5,762 ft.
Stanolind O. & G. Co. No. 2 Moore and Rassmussen, A.C.H.&B. Sur. Drlg. sh. 1,681 ft.
Stanolind O. & G. Co. No. 5 Steve Paul, A.C.H.&B. Sur. T.D. 6,080 ft.; 7-in. csg. 5,920 ft.; I.P. 643 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 6 Steve Paul, A.C.H.&B. Sur. No. 2. Drlg. sh. 1,489 ft.
Stanolind O. & G. Co. No. 7 Steve Paul, A.C.H.&B. Sur. No. 2. T.D. 6,080 ft.; 7-in. csg. 5,923 ft.
Stanolind O. & G. Co. No. 4 S. A. Pennock, H.T.&B. Sur. No. 36. T.D. 6,080 ft.; 7-in. csg. 5,893 ft.; I.P. 619 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 4 Surface, B. B.B.&C. Sur. Drlg. sh. 4,265 ft.
Stanolind O. & G. Co. No. 5 J. W. Surface, A.C.H.&B. Sur. T.D. 6,080 ft.; 7-in. csg. 5,917 ft.
Stanolind O. & G. Co. No. 1 R. E. Turningtine, H.T.&B. Sur. No. 29. Drlg. sh. 200 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 2 Gibson, J. W. Hall Sur. Drlg. sh. 5,735 ft.
Gulf Oil Corp. No. 2 Fred Reiss, J. W. Hall Sur. Drlg. sh. 4,882 ft.
Gulf Oil Corp. No. 4-A Wilkes and Smith, J. W. Hall Sur. Drlg. sdy. sh. 2,329 ft.

Manvel—Brazoria County

T. J. Holcombe No. 1 W. A. Gamble, E. Little Sur. T.D. 4,058 ft.; 7-in. csg. 4,044 ft.
Texas Co. No. 16-A W. T. Belcher, H. N. Little Sur. T.D. 5,675 ft.; I.P. 490 B.P.D.; ¼-in. ck.
Texas Co. No. 25 Houston Oil Field Assn., A.C.H.&B. Sur. No. 91. T.D. 5,696 ft.; 7-in. csg. 5,660 ft.; I.P. 509 B.P.D.; ¼-in. ck.
Texas Co. No. 7 Rash, T. Spraggins Sur. Drlg. sd. 4,116 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1-A Bernard Land & Dev. Co. O.W.D.D.; drlg. sdy. sh. 10,359 ft.
Harrison and Abercrombie No. 4 Bernard River Ld. and Development Co., Charles Breen Sur. 13⅜-in. csg. 1,405 ft.; 9⅝-in. csg. 7,005 ft.; drlg. sdy. sh. 10,026 ft.

Sandy Point—Brazoria County

Bunte O. & G. Co. No. 1 A. A. Sharp, Chester S. Gorbot Sur. Drlg. sh. 6,664 ft.
Bunte O. & G. Co.-Florence Investment Co. No. 1 Fite. T.D. 6,568 ft.; 5½-in. csg. 6,523 ft.; perf. csg. 6,467-75 ft.; flwd. 15 bbls. 48 grav. oil per day; ¼-in. ck.

Calhoun—Heyser—Victoria County

George Echols No. 4 Bennett, J. Galban Sur. T.D. 5,491 ft.; 7-in. csg. set on bottom; drlg. sh. 5,740 ft.
Humble O. & R. Co. and Plymouth Oil Co. No. 12-A P. H. Welder, A. Sisneros Sur. T.D. 5,485 ft.; I.P. 5 B.P.H.; 7/64-in. ck.
Humble O. & R. Co. and Plymouth Oil Co. No. 13-A P. H. Welder, A. Sisneros Sur. T.D. 5,452 ft.; rng. csg.
Humble O. & R. Co. No. 16-A P. H. Welder, J. M. Rios Sur. T.D. 5,687 ft.; rng csg.
Normandie Oil Co. No. 1 J. G. Cook, A. Sisneros Sur. R.U.
Portilla Drlg. Co. No. 7-C P. H. Welder, J. M. Rios Sur. Drlg. sh. 2,360 ft.

Anahuac—Chambers County

Gulf Oil Corp. No. 9 Knowles, W. T. Knowles Sur., H.&T.C. Sur. No. 48. T.D. 7,120 ft.; 7-in. csg. 7,108 ft.; I.P. 430 B.P.D.; ¼-in. ck.
Gulf Oil Corp. No. 2 Pommer, sec. 40, H. &T.C. Sur. R.U.
Humble O. & R. Co. No. 11 Broussard, sec. 59, H.&T.C. Sur. Drlg. sdy. sh. 7,035 ft.
Humble O. & R. Co. No. 12 Broussard, H.&T.C. Sur. No. 59. T.D. 7,080 ft.; 5½-in. csg. 7,057 ft.
Humble O. & R. Co. No. 11 Clark, sec. 57. Drlg. sh. 1,020 ft.
Humble O. & R. Co. No. 2 Drought, sec. 46, H.&T.C. Sur. Drlg. sdy. L. 6,109 ft.
Humble O. & R. Co. No. 1 W. L. Garth, sec. 68, T.&N.O. Sur. Drk.
Humble O. & R. Co. No. 3 Lord, H.&T.C. Sur., sec. 50. Drlg. sh. & L. 4,684 ft.
Humble O. & R. Co. No. 7-B White, J. McGahey Sur. Sh. 6,288 ft.
Humble O. & R. Co. No. 5 Wilcox, sec. 50, H.&T.C. Sur. T.D. 7,080 ft.; I.P. 640 B.P.D.; ¼-in. ck.

Cotton Lake—Chambers County

Salt Dome Oil Co. No. 2-C Lawrence, S. Barrow Sur. 10¾-in. csg. 1,104 ft.; split sur. csg.; skidded drk. for new hole; T.D. 6,509 ft.; 7-in. csg. 6,504 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 2 H. O. Acom, H.T.&B Sur. No. 23. 18⅝-in. csg. 91 ft.; drlg. sh. 7,970 ft.
Sun Oil Co. No. 1-A Broussard-Hebert, T. &N.O. Sur. No. 127. 13⅜-in. csg. 1,366 ft.; T.D. 8,781 ft.; cemented 7-in. csg. 8,380 ft.; P.B. 8,450 ft.; run screen and lnr.; comp. for dry gas well; T.P. 3,100 lbs.; C.P. 3,300 lbs.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Earl R. Davis, Chadrick Burney Sur. Drlg. sdy. sh. 1,188 ft.

Big Creek—Fort Bend County

Barnett Pet. Corp. No. 2 J. H. P. Davis, B. Nickson Sur. T.D. 3,080 ft.; P.B. and sdtrkd.; drlg. sh. 2,756 ft.
Gulf Oil Corp. No. 76 Davis, M. Young Sur. Drlg. sdy. sh. 416 ft.

Blue Ridge—Fort Bend County

Telshaw-Reese and Echelson No. 1 Blakely, E. Drew Sur. R.U.

Boling—Fort Bend County

Mack Hank Oil Co. No. 5-C E. C. Farmer, J. Scott Sur. T.D. 4,634 ft.; 7-in. csg. 4,568 ft.

Thompson—Fort Bend County

H. M. Naylor No. 11 S. P. Gehr, S. Kennedy Sur. Drlg. sh. 4,946 ft.
H. M. Naylor No. 11 Gehr, S. Kennedy Sur. T.D. 5,398 ft.; 7-in. csg. 5,280 ft.; R.U. to pmp.

Orchard—Fort Bend County

Gulf Oil Corp. No. 52 Moore, James Frazier Sur. Drlg. sdy. sh. and L. 3,708 ft.
Gulf Oil Corp. No. 53 Moore, J. Frazier Sur. Drlg. sh. and L. 4,131 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 1-B Cade, B. Denman Sur. T.D. 7,114 ft.; P.B. 6,715 ft.; perf. csg. 6,695-6,710 ft.; I.P. 332 B.P.D.
Stanolind O. & G. Co. No. 61 Cade, N. Fitzsimmons Sur. Drlg. sd. 5,365 ft.
Stanolind O. & G. Co. No. 62-A Cade, M. Fitzsimmons Sur. Drlg. sh. and L. 4,383 ft.
Stanolind O. & G. Co. No. 1 C. E. Smith, M. Dunman Sur. Drk.
Stanolind O. & G. Co. No. 15-A Smith, M. Dunman Sur. Drlg. sd. and L. 4,891 ft.

Dickinson—Galveston County

Atlantic O. & R. Co. No. 2 Sealy Hutchins, P. G. Merritt Sur. T.D. 8,127 ft.; 7-in. csg. on bttm.; I.P. 671 B.P.D.; ¼-in. ck.
Diadem Oil Corp. of Texas No. 2 W. J. Way, E. P. Epperson Sur. T.D. 8,198 ft.; 6⅝-in. csg. 8,191 ft.; perf. csg. 8,058-62 ft.; tstd. S.W.; cmtd. perf. csg.; made squeeze job; perf. csg. 8,133-44 ft. R.U. to drill ahead; perf. csg. 8,142-35 ft.; tstd. S.W.; S.D.; prep. to drill ahead.
Humble O. & R. Co. No. 19-A Maco Stewart, W. K. Wilson Sur. T.D. 8,984 ft.; 7-in. csg. 8,962 ft.
Humble O. & R. Co. No. 8-B M. Stewart, W. Wilson Sur. Drlg. sh. 8,885 ft.
Kenben Oil Co. No. 4 Maco Stewart, W. K. Wilson Sur. T.D. 8,749 ft.; 6⅝-in. csg. 8,647 ft.; I.P. 631 B.P.D.; ¼-in. ck.
W. E. McKinney et al No. 3-A Galveston-Houston Elec. R.R., W. K. Wilson Sur. T.D. 8,510 ft.; P.B. to sdtrk.; sdtrkd. at 8,300 ft.; P.B. to 7,500 ft.; drlg. sdy. sh. 8,613 ft.
Pan American Prod. Co. No. 3 Craig, W. K. Wilson Sur. Drlg. sh. 7,250 ft.
Stanolind O. & G. Co. No. 2 Dameant, W. K. Wilson Sur. T.D. 8,800 ft.; 7-in. csg. 8,638 ft.; I.P. 732 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 7 State, 13⅜-in. csg. 2,013 ft.; drlg. sh. 6,472 ft.
Turman Oil Co. and Maco Stewart No. 1 Stewart, W. K. Wilson Sur. T.D. 8,931 ft.; B.P. and sdtrkd.; T.D. 8,929 ft.; 7-in. csg. 8,929 ft.

Batson—Hardin County

Bunte O. & G. Co. No. 1 Melhome, J. Melhome Sur. T.D. 3,493 ft.; W.O. csg.

Silsbee—Hardin County

Humble O. & R. Co. No. 1 Kirby, G. W. Brooks Sur. R.U.
Republic Prod. Co.-Houston Oil Co. No. 11 Brooks, G. W. Brooks Sur. 10¾-in. csg. 1,441 ft.; T.D. 6,964 ft.; P.B. 5,683 ft.; drld. into old hole; P.B. 5,400 ft.; T.D. 6,959 ft.; 7-in. csg. 6,953 ft.; I.P. 437 B. P.D.; ¼-in. ck.
Republic Prod. Co-Houston Oil Co. No. 14 Brooks, G. W. Brooks Sur. T.D. 6,915 ft.; 7-in. csg. 6,908 ft.
Republic Prod. Co.-Houston Oil Co. No. 15 Brooks. T.D. 6,965 ft.; 7-in. csg. 6,957 ft.; I.P. 1,082 B.P.D.; ¼-in. ck.
Republic Prod.-Houston Oil Co. No. 16 Brooks, G. W. Brooks Sur. Drlg. 69 ft.

Bammel—Harris County

Geo. Lawrence No. 2 Zapp, J. Farwell Sur. R.U.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 D. A. Oates, C. Martinez Sur., Abst. 543. 9⅝-in. csg. 6,771 ft.; drlg. sdy. sh. 8,067 ft.; top gas sd. 8,063 ft.; T.D. 8,783 ft.; P.B. 8,088 ft.; cutting out back pres. valve.

Goose Creek—Harris County

Bob Foster No. 1 Esenhour, Wm. Scott Sur. S.D. 2,257 ft.
Sun Oil Co. No. 1 A. Smith, Wm. Scott Lower Lge. T.D. 5,057 ft.; P.B.

Fairbanks—Harris County

Amerada Pet. Corp.-Stanolind O. & G. Co. No. 1 W. Jacobs, Blk. 1, sec. 2, W.C.R. R. Sur. 10¾-in. csg. 1,430 ft.; T.D. 7,256 ft.; P.B. 6,835 ft.; perf. csg. 6,824-28 ft.; flwd. oil and some S.W.; made squeeze job; flwd. 51 B.P.D. and went dead.

Humble—Harris County

Texas Co. No. 273 Landslide, Robt. Dunman Sur. 10-in. csg. 706 ft.; T.D. 3,602 ft.; 7-in. csg. 3,172 ft.; I.P. 380 B.P.D.; ¼-in. ck.

Pierce Junction—Harris County

A. & P. Production Co. No. 9 Whitehead, J. Hamilton Sur. No. 51. T.D. 4,984 ft.; rng. Schlumberger.

South Houston—Harris County

Smith and McDannald No. 2 L. R. Phillips, Lot 146, H.T.&B. Sur. No. 6. T.D. 4,079 ft.; P.B. and sdtrkd. 2,762 ft.; drlg. sh. 2,850 ft.
Stanolind O. & G. Co. No. 1 Bennett, Unit 13, H.T.&B. Sur. No. 6. 16-in. csg. 90 ft. T.D. 1,484 ft.; drlg. sh. 3,363 ft.
Stanolind O. & G. Co. No. 2, Dist. No. 23. T.D. 4,133 ft.; P.B. 2,200 ft.; drlg. sh. 2,292 ft.

Tomball—Harris County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 2 W. W. Baker, J. House Sur. Drlg. sh. 4,163 ft.
Humble O. & R. Co. No. 6 W. H. Gossett, E. Smith Sur. T.D. 5,543 ft.; 5½-in. csg. 5,537 ft.; I.P. 393 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 5 F. T. Heis, C. N. Pilot Sur. T.D. 5,554 ft.; 5½-in. csg. 5,486 ft.; comp. for dry gas well.
Humble O. & R. Co. No. 5 W. E. Hoffman, J. House Sur. T.D. 5,593 ft.
Humble O. & R. Co. No. 4 J. Mahaffey, J. Pruitt Sur. Drlg. sh. 5,436 ft.
Humble O. & R. Co. No. 1 M. W. Stebly, J. Pruitt Sur. Drlg. sh. 1,410 ft.
Shell Petroleum Corp. No. 2 Keys, J. Pruitt Sur. T.D. 5,568 ft.; I.P. 505 B.P. D.; ¼-in. ck.

Ganado—Jackson County

Texas Co. No. 1 Hultquist, D. Dempsey Sur. 10-in. csg. 1,210 ft.; T.D. 5,140 ft.; 7-in. csg. 5,108 ft.; perf. csg. 5,086-99 ft.; I.P. 9½ B.P.D.; 7/64-in. ck.

Amelia—Jefferson County

Humble O. & R. Co. No. 1 Bridges, A. S. Avery Sur. Drlg. sh. 2,902 ft.
Humble O. & R. Co. No. 3 Crook, C. Williams Sur. Drlg. sh. 1,365 ft.
Humble O. & R. Co. No. 1 J. H. Deer et al, Unit 51. T.D. 6,779 ft.; 5½-in. csg. 6,774 ft.; I.P. 695 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1-A J. A. Dishman. T.D. 6,781 ft.; 5½-in. csg. 6,778 ft. I.P. 652 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1-B Dishman. C. Williams Sur. T.D. 6,782 ft.; 5½-in. csg. 6,776 ft.
Humble O. & R. Co. No. 1-C Dishman. C. Williams Sur. T.D. 6,785 ft.; 5½-in. csg. 6,777 ft.
Humble O. & R. Co. No. 1-D Dishman, Unit 31. T.D. 6,777 ft.; 5½-in. csg. 6,772 ft.; I.P. 634 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1-F Dishman, Blk. C. T.D. 6,779 ft.; 5½-in. csg. 6,776 ft.; I.P. 651 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 1 Fitzgerald, C. Williams Sur. T.D. 6,779 ft.; run csg.
Humble O. & R. Co. No. 6 Guinn, C. Williams Sur. T.D. 6,779 ft.; 5½-in. csg. 6,774 ft.

Humble O. & R. Co. No. 1 Mulligan, C. Williams Sur. Drlg. sh. 1,330 ft.
Humble O. & R. Co. No. 4 Phelan, C. Williams Sur. T.D. 6,779 ft.; 5½-in. csg. 6,776 ft.; I.P. 576 B.P.D.; ¼-in. ck.
Humble O. & R. Co. No. 5 Phelan, C. Williams Sur. T.D. 6,779 ft.; rng. 5½-in. csg.
Humble O. & R. Co. No. 2-B Pinchback, C. Williams Sur. Drlg. sh. 5,834 ft.
Humble O. & R. Co. No. 1-B Tyrell, Combest A. Savery Sur. Drlg. sh. 4,230 ft.
Glenn H. McCarthy No. 6 Longe, H. Williams Sur. R.U.
Normandie Oil Co. No. 2 R. J. Peveto, C. Williams Sur. T.D. 6,779 ft.; 7-in. csg. 6,779 ft.
Stanolind O. & G. Co. No. 1 J. W. Hall, H. Williams Sur. T.D. 6,103 ft.; perf. csg. 6,099-6,101 ft.; perf. csg. 5,352-67 ft.; swbg.; I.P. 22 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 2 W. P. McCormick, H. Williams Sur. Drlg. sh. 2,100 ft.
Stanolind O. & G. Co. No. 2-B Pipkin, W. M. McFadden Sur. Drlg. sh. 3,567 ft.
Stanolind O. & G. Co. No. 2 Sargi, H. Williams Sur. 16-in. csg. 60 ft.; T.D. 6,100 ft.; 7-in. csg. 6,020 ft.; P.B. 6,016 ft.; perf. csg. 5,982-86 ft.; I.P. 200 B.P.D.; ¼-in. ck.
Stanolind O. & G. Co. No. 3 Sargi, H. Williams Sur. R.U.
Stanolind O. & G. Co. No. 4 Sargi, H. Williams Sur. Drlg. sh. 60 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 2 M. E. Fitzhugh, Wm. McFaddin Sur. Drlg. sh. 2,810 ft.
Stanolind O. & G. Co. No. 4-A Pipkin, T.&N.O. Sur. Drlg. sh. 1,689 ft.

Fannett—Jefferson County

Gulf Oil Corp. No. 8 Junker, Wm. Smith Sur. T.D. 1,951 ft.; 10¾-in. csg. 1,948 ft.

LaBelle—Jefferson County

Sun Oil Co. No. 1 John Ward, 933 ft. S of No. 2 Broussard, Wm. Burton Sur. 18⅝-in. csg. 109 ft.; T.D. 8,598 ft.; 9⅝-in. csg. 8,538 ft.; drlg. sh. 8,953 ft.

Nome—Jefferson County

Shell Pet. Corp. No. 3 Texas Public Service Co., W. Aldridge Sur. Drlg. 1,047 ft.
Shell Pet. Corp. No. 2 Unit "B," M. E. Peveto Sur. T.D. 6,080 ft.; 5-in. csg. 6,018 ft.
Sun Oil Co. No. 1 A. J. Mouboules, J. Blair Sur. 10¾-in. csg. 1,062 ft.; T.D. 8,768 ft.; P.B. 8,175 ft.; tstd. S.W.; P.B. and sdtrkd.; T.D. 5,678 ft.; 7-in. csg. 5,630 ft.; swbd. S.W.; cutting lnr.; abd.
Sun Oil Co. No. 8 Paggi, J. W. Kirby Sur. T.D. 6,051 ft.; 7-in. csg. 6,016 ft.

Cleveland—Liberty County

Gulf Oil Corp. No. 18-C Kirby, J. Pleasant Sur. Drlg. sh. and L. 2,115 ft.

Esperson—Liberty County

General Crude Oil Co. No. 29 Moores-Bluff, M. Dunman Sur. T.D. 2,980 ft.; 9⅝-in. csg. 2,968 ft.

Hull—Liberty County

Bishop Oil Co. No. 1 C. R. Wilson, J. Devore Sur. Oil sd. 780-88 ft.; T.D. 4,127 ft.; 7-in. csg. 2,204 ft.; perf. csg. 2,286-90 ft.; swbg.
Hamil and Smith No. 1 Barngrover, J. Devore Sur. T.D. 6,631 ft.; perf. csg. 5,705-5,806 ft.; swbg.
Houston Prod. Co. No. 1 Hannah fee, J. DeVore Sur. Drlg. rk. 2,681 ft.
Republic Prod. Co. No. 162 Dolbear, J. Devore Sur. T.D. 2,960 ft.; P.B. and sdrkd.; drlg. sh. 3,042 ft.
Texas Co. No. 7 Hannah fee, J. Devore Sur. Drlg. sh. 1,772 ft.

Markham-Matagorda County

Turman Oil Co. No. 2 Hamil and Hamil, T. E. Hudson Sur. Drlg. sh. 3,123 ft.

Bay City—Matagorda County

Hamman Expl. Co. No. 2 Cleveland, E. Hall Sur. T.D. 8,182 ft.; run 7-in. csg.

Palacios—Matagorda County

Glenn H. McCarthy No. 1 Foley Land Co., L. Goodwin Sur. Cg. 7,900 ft.

Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft.; 18⅝-in. csg. 2,174 ft.; 13⅜-in. csg. 3,700 ft.; 9⅝-in. csg. 5,689 ft.; T.D. 5,969 ft.; hole cleaned; P.B. and sdtrkd.; drlg. sh. 5,928 ft.; (cor.).

Van Vleck—Matagorda County

Skelly Oil Co. No. 2 Johnson, M. Cummins Sur. T.D. 7,159 ft.; make D.S.T.

Livingston—Polk County

Ownby Drlg. Co. No. 10 Pratt, A. Viesca Sur. T.D. 4,220 ft.; swbd. in; showed gas; shut in.

Segno—Polk County

J. K. Dorrance No. 2 Wing, I.&G.N. Sur. No. 15. Drlg. sh. 2,935 ft.
J. K. Dorrance No. 3 Wing, I.&G.N. Sur. No. 15. R.U.
J. K. Dorrance No. 4 Wing, I.&G.N. Sur. No. 15. 7-in. csg. 5,247 ft.; T.D. 5,247 ft. I.P. 610 B.P.D.; ¼-in. ck.
Gulf Oil Corp. No. 1 Ragan, I.&G.N. Sur. No. 15. Drlg. sh. 5,257 ft.
Humble O. & R. Co. No. 4-B Kirby, Marcell Victor Sur. R.U.
Laquinta Oil Co. No. 5 W. G. Wing, I.& G.N. Sur. No. 15. R.U.

Quintana-O'Connor-Greta—Refugio County

Cosmo Pet. Co. No. 16 Heard, Blk. 119, Refugio Townsite. T.D. 4,937 ft.; tested dry, deepening; no report.
Hewitt and Daugherty No. 46 Lambert, J. M. Swisher Sur. T.D. 5,900 ft.; tstg.
Nordan and Morris No. 7 O'Connor, J. Hewitson Sur. Drlg. sh. 4,710 ft.
Nordan and Morris No. 10 O'Connor, J. Hewitson Sur. Core sd. S.O.&G.; no report.
Quintana No. 6 Heard, Webb Sur. T.D. 5,925 ft.; W.O.C.
United Gas Co. No. 52 Lambert, Swisher Sur. Drlg. sh. 5,712 ft.
United Gas Co. No. 54 Lambert, J. M. Swisher Sur. Drlg. 3,978 ft.
United Gas Corp. No. 12 J. J. O'Brien, Rng. csg. 8,357 ft.
United Gas Co. No. 9, Ryals Townsite. Drlg. 4,936 ft.
United Gas Corp. No. 42 Tomoconnor, Swisher Sur. Drlg. sh. 5,712 ft.

Spurger—Tyler County

Republic Production Co.-Houston 9. Co. No. 3 Hurd, N. Hurd Sur. 10¾-in. csg. 2,331 ft.; drlg. sdy. sh. 6,012 ft.

Keeran—Victoria County

Gulf Oil Corp. No. 11 J. M. Keeran, M. DeLeon Sur. T.D. 6,361 ft.; W.O.
Union Oil Co. of Calif. No. 4 Keeran, M. DeLeon Sur. T.D. 6,004 ft.; perf. csg. 5,618-21 ft.; tstg.; I.P. 240 B.P.D.; ¼-in. ck.

McFadden—Victoria County

Transwestern Oil Co. No. 3 J. A. McFadden, Julius Varian Sur. S.D. 5,273 ft.

Placedo—Victoria County

Barnsdall-American Liberty Oil Co., S.A. &M.G. Sur. No. 7. T.D. 4,763 ft.; 7-in. csg. 4,750 ft.; I.P. 8 B.P.H.; ¼-in. ck.
Barnsdall-American Liberty Oil Co. No. 10 J. M. Pickering, Wm. Rupley Sur. T.D. 7,243 ft.; perf. csg. 5,347-52 ft.; swbg.
Lion O. & R. Co. No. 3 S. W. Wright, S.A.&M.G. Sur. T.D. 4,775 ft.; flwg. with gas-lift; no gauge.
Magnolia Petroleum Co. No. 8 Sklar, S.A.&M.G. Sur. No. 17. T.D. 4,766 ft.; pmpd. and flwd. 60 bbls. in 6 hrs.
Magnolia Pet. Co. No. 9 Chas. Sklar, S.A. &M.G. Sur. Drlg. sh. 1,232 ft.
Portilla O. & G. Co. No. 1 T. P. Traylor, S.A.&M.G. Sur. No. 11. T.D. 6,050 ft.; comp. for dry gas well.
Salt Mount Oil Corp. No. 1 O. A. Lola, Wm. Rupley Sur. T.D. 4,806 ft.; 7-in. csg. 4,805 ft.; R.U. to pmp.
Shell Pet. Corp. No. 5 Houston Natl. Bank, S.A.&M.G. Sur. Drlg. sh. 5,310 ft.
Superior-Gillespie No. 9 J. J. Hosek, S.A.& M.G. Sur. T.D. 4,779 ft.; 7-in. csg. 4,772 ft.
Superior Oil and Gillespie No. 10 J. J. Hosek, S.A.&M.G. Sur. Drlg. sd. 4,210 ft.

Clay Creek—Washington County

Oak Oil Corp. No. 1 G. Cockrell, J. F. Perry Square Sur. S.D. 952 ft.
Sun Oil Co. No. 6 Droger, J. Perry Sur. Drlg. 3,399 ft.
Virginia Oil Co. No. 1 Joe Kenieczny, S. M. Williams Sur. 10¾-in. csg. 104 ft.; T.D. 2,171 ft.; P.B. to 500 ft.

Five Corners—Wharton County

Texas Co. No. 7-B Pierce Est., J. Caldwell Sur. T.D. 5,555 ft.; 7-in. csg. 5,554 ft.; flwd. oil and S.W.; squeezed off bttm. with cmt.; flwd. 75% S.W.; killed; pulling screen.

Louise—Wharton County

C. E. Oil Co. No. 1 R. C. Fair, Morris and Cummins Sur. No. 290. Drlg. sh. 3,375 ft.

Magnet—Wharton County

Atlantic Ref. Co. No. 1-B H. C. Cockburn, J. Smith and McKenzie Sur. Drlg. sh. 5,450 ft.
W. W. Van Allen-Texas Crusader No. 1 Sweet, J. Smith and McKenzie Sur. Drlg. L. 4,949 ft.

Pickett Ridge—Wharton County

Texas Co. No. 33-A Pierce Est., G.B.&N. Sur. No. 4; 9,000-ft. test. Drlg. 5,660 ft.

Withers—Wharton County

Texas Co. No. 27-C Pierce Est., Wm. Pettus Sur. T.D. 5,554 ft.; 7-in. csg. 5,547 ft.
Texas Co. No. 29-C Pierce Est., Wm. Pettus Sur. 10-in. csg. 38 ft.; T.D. 5,560 ft.; 7-in. csg. 5,554 ft.
Texas Co. No. 30-C Pierce, Wm. Pettus Sur. Drlg. sh. 5,468 ft.

GULF COAST WILDCATS

Austin County

Cockburn et al No. 1 Forester, S. J. Sloan Sur. T.D. 3,850 ft.; abd.

Brazoria County

Pure Oil Co. No. 1 P. M. Slade, S. F Austin Lge. T.D. 7,842 ft.; D.S. stuck; fsg.
Texas Co. No. 2 Robbins, James W Brougham Sur. 13⅜-in. csg. 5,498 ft.; 9⅝-in. csg. 6,060 ft.; drlg. sh. 6,768 ft.

Colorado County

Coyle & Concord No. 3-B Powell, I.&G.N. Sur. No. 45. R.U.
Humble O. & R. Co. No. 1 Relaw Land Co., J. L. Duggan Sur. Drlg. sh. 4,835 ft.

Fort Bend County

John Byers No. 1 Lockwood-Sharpe, Wm. McMahon Sur. Drlg. sh. 4,468 ft.
Marlen Oil Co. No. 1 Frank Jurca, sec. 26, H.&T.C. Sur. R.U.
Dick Schwab and Gem Oil Co. No. 1 David Fitzgerald Sur. R.U.
Trone No. 2 Trone, H.&T.C. Sur. No. 67. Drlg. sh. 900 ft.

Harris County

Superior Oil Co. No. 1 Butler, Eehrhardt Sur. Drlg. sh. 7,670 ft.

Jackson County

George W. Greet et al No. 1 J. R. Davis, David Hoffman Sur. Drlg. sh. 800 ft.

Jefferson County

Magnolia Pet. Co. No. 1 J. H. Phelan, T.&N.O. Sur. No. 14. 13⅜-in. csg. 3,016 ft.; T.D. 8,578 ft.; will run csg. to test 8,350-8,460 ft.
H. B. Smith and R. Smith No. 1, J. W. McGaffey Sur. Loc.

Lavaca County

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. T.D. 3,250 ft.; P.B. 2,950 ft.; two tests failed; S.D.

Liberty County

Jack Frazier et al No. 1 B. F. Haoachy, Hughes B. Johnson Sur. 10¾-in. csg. 1,143 ft.; drlg. sdy. sh. 4,914 ft.

Matagorda County

Continental Oil Co. No. 2 Hawkins Est., D. McCarty Sur. 20-in. csg. 120 ft.; drlg. sh. 4,819 ft.
Royal O. & G. Corp. No. 1 T. J. Ewing, Burnett and Sojouner Sur. T.D. 5,000 ft.; run Schlumberger survey.
United North & South Development Co. No. 1, J. S. Cotton Sur. T.D. 9,895 ft.; 7-in. csg. on bttm.; tstd. S.W. 9,769-81 ft.; squeeze off perfs.; perf. csg. 9,829-47 ft.; swbd. to 5,000 ft.; no results; S.D.

Montgomery County

C. E. Gates No. 1 South Texas Long Leaf Lbr. Co., Walker Co. Sch. Ld. Drlg. sh. 3,250 ft.

San Jacinto County

Cockburn Oil Corp. et al No. 1 Whitten, Wm. West Sur. Drlg. sh. 612 ft.

Trinity County

McArthur & Nixon No. 1 Kountze, J. A. Hankins Sur. Run csg. 1,438 ft.
West Prod. Co. No. 1 Texas Long Leaf Lbr. Co., John Williams Sur. Abd. 4,549 ft.

Victoria County

Harry Stekoll No. 1 Knolle, C. W. Wilsery Sur. Drlg. sdy. sh. 3,147 ft.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur R.U.

Washington County

K. D. Harrison and C. E. Starr No. 1 Charles and Wm. Ellerman, Wm. Bridges Lge. 13-in. csg. 290 ft.

Wharton County

Smith and McDannald No. 1 Martin, I.& G.N. Sur. No. 16. Abd. 5,905 ft.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 2 Kate Edwards, 330 ft. S line, Lot 85, 660 ft. SW No. 1 Wm. Lewis Sur. D.S.T. 8,010-29 ft.; rec. S.W.; unloading 3,000 ft. wtr. cushion; cg. 8,249 ft.
Danray Oil Co. No. 1 Davis, Tr. 5, Wm. Boyd Sur. R.U.

Atascosa County

L. G. Priest No. 1 Bridwell, Tr. 45, Gorman Sur. Drlg. 1,721 ft.

Bastrop County

Marts & Beavers No. 1 Harris, McKean Sur. D.&A. 2,998 ft.
R. Pulliam No. 1 Yoast, Garcia Sur. R.U.

Bee County

Butler & Turner No. 1 Scott, Sec. 7, Howeth & Singer Sur., Uranga Gr. Cg. sh. 4,435 ft.
Illinois Pet. Co. No. 1 Harris, Blk. 4, Catlett & O'Neill Sur. Cg. 4,483 ft.
R. B. Swiger No. 1 McKinney, L. C. Randolph Sur. D.&A. 4,265 ft.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. Drlg. 1,231 ft.

Brooks County

Gifford Oil Co. No. 1 Singer, Sur. 630. Cg. 2,383 ft.
Standard of Tex. No. 1 Mestina, Mestina Lse. No. 3. Cg. 4,820 ft.

Caldwell County

Crosby et al No. 1 fee, SW Lockhart Ed. L. sat. 1,843-47 ft.; set csg.
F. & W. Drlg. Co. No. 1 Rodenberg, J. Berry Sur. Set csg. 2,014 ft.; W.O.C.
E. H. Grazer No. 1 Field, Dikes Sur. Cg. chalk 1,699 ft.
Housel Oil Co. No. 1 Driscoll. S.D. 1,520 ft.
J. O. Mack, Jr., No. 1 Withers, Wm. House Sur. Drlg. sh. 627 ft.
C. R. Richardson No. 1 Patterson, S. Pettus Sur. Set csg. 780 ft.
G. C. Richardson No. 1 Trammel, E. Berry Sur. R.U.
Lee Ross No. 1 Daugherty, John Tyler Sur. Drlg. 556 ft.
Sherman Nelson No. 1 Etheridge, T. Hunter Sur. T.D. 2,180 ft.; R.U.; W.O.O.

Cameron County

Ruez-Morton No. 1 United Land Irr. Co., Lot 7, Blk. 402, El Jardin Subd. Spd.
Saxet Prod. Co. No. 1 Port Isabel Irr. Co. 600 ft. N line Loma Alta Lake, Sh. 29 Espiritu Santa Gr. Spudded and Stdg
Stapper Petroleum Corp. No. 1 Port Isabel Irrigation Co., Blk. 17, P.I.I.Co. Subd Santo Gr. S.D.; boiler repair; 7,794 ft.

Dimmit County

Wilcox O. & G. Co. No. 1 Light ranch, 330 ft. N and E line, sec. 67. Drlg. 6,217 ft.

Duval County

Govt. Wells Oil Co. No. 1 Lundell, 990 ft. N line, 2,700 ft. E line, sec. 140. Set surf. csg.; W.O.C.
Kepley Prod. Co. No. 2 Sevier, sec. 71, Rafael Roselia Gr. Cg. 2,192 ft.
King Drlg. Co. No. 1 Parr, San Andres Gr. R.U.
Magnolia Pet. Co. No. 1 Well, Sur. 565. Set csg. 35 ft.; W.O.C.
Geo. Viterio No. 1 E. E. Cadena, Blk. 6, Cadena Ranch Subd., Hinojosa Gr. Drlg. sh. 5,621 ft.

Edwards County

Amon G. Carter No. 1 Sweeten, Blk. 2, sec. 49. R.U.
Auld, Dodson & Lyman No. 1 Rigsby, sec. 16. S.S.O. 3,920-22 ft.

Frio County

Amerada Pet. Corp. No. 1 Harriman, Flores Sur. 306. Lost hole; drlg. sdtrk. hole 3,912 ft.
Pagenkoff & Jamieson No. 2 Blackaller, Gourley Sur. 765. Loc.

Goliad County

Goliad Oil Corp. No. 1 Cole, 206 ft. W line, CN&SL, Lot 33. Goliad Town Trs. Blew out at 5,545 ft., T.D.; made gas through blowout preventer take-off; comp.; gasser; through D.S.

Guadalupe County

J. E. Clark No. 1 Schneider, J. Cantu Sur. D.&A. 2,132 ft.
Fair et al No. 1 Hemple, Williams Sur. Cg. 2,076 ft.
Lincoln Pet. Co. No. 1 Baenzinger, Mansola Sur. Set csg. 1,990 ft.; drlg. plugs.
Robertson et al No. 1 Blumberg, M. Baker Sur. Drlg. 1,026 ft.

Hidalgo County

Dayle Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 76. T.D. 2,300 ft.; T.A.
Young & Bonneau No. 1 Diaz, Tr. 331, Porc. 40. D.&A. 3,401 ft.

Jim Wells County

Magnolia Pet. Co. No. 7 Seeligson, 10,433-ac. tr., Los Jaboncillos Gr. Drlg. 3,027 ft.
Wellington Oil Co. No. 1 C. D. Sevier, 5,877 ft. E line, 5,525 ft. S line, Lola Gr. Drlg. 4,520 ft.

Lee County

Elaussa Oil Co. No. 1 Saunders, Von Reeder Sur. Set csg. 3,672 ft.; T.D. 3,675 ft.; W.O.
Jas. E. Pederson No. 1 Turner, David Hudson Sur.; W.O. T.D. 6,560 ft.; clg. out.

Live Oak County

R. A. David No. 1 Mac Bach, 423-ac. tr., Hays Sur. Cg. 887 ft.
R. H. Feltener No. 2 Sanger, Sur. 385. Tstg. sd.; oil odor, 2,376-80 ft.
Loma Oil Co. No. 1 Terrill, Houlihan Sur. Spd. and S.D.

McMullen County

Big Rock Oil Corp. No. 1 Martin, Welting Sur. No. 6. D.&A. 526 ft.
Howell Oil Corp. No. 1 Martin, Sur. 213. S.D. 2,375 ft.
W. L. Hinds No. 1 Rhodes, NE¼, NW¼ sec. 54. Set csg. 45 ft.; W.O.C.
E. M. Jones No. 3 Ezell, SE¼, sec. 3, Ezell ranch. D.S.T. 1,533-47 ft.; rec. 750 ft. P.L.O. in 15 min. ⅜-in. ck.; rng. csg.; T.D. 1,547 ft.
Rowan & Nichols No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. Spdg.

Milam County

Kingdor Expl. Co. No. 1 White, B. Wickson Sur. Drlg. 66 ft.

Nueces County

Clarkwood Oil Co. No. 1 H. B. Baldwin, Blk. 11, Russell Farm Lots. D.&A. 7,040 ft.
Gillock et al No. 1 Poenisch, Lot 11 sec. 32. M.I.M.
W. L. Hinds Drlg. & Expl. Co. No. 1 River Bros. 80-ac. tr., sec. 301. Drlg. 890 ft.
Mills Bennett Prod. Co. No. 1 Haverman, C. Land Sur. 408. R.U.
Navarro Oil Co. No. 1 Poenisch, Lot 21, sec. 14. Loc. abd.
Phillips Pet. Co. No. 1 Harney, Sh. 11, Gregoria Farias Gr. (W.O.). Cg. 5,887 ft.
Seaboard Oil Corp. No. 1 James Luby, Blk. 4, Mary Luby Subd., Petronilla ranch. Cg. 5,182 ft.
Southern Minerals Corp. No. 1 R. King, sec. 32, King Farm Lots. Sd. 6,515 ft.; tried to blow out; killed; stuck D.S.; fsg.
Taylor Pet. Co. No. 1 Stiles, Blk. 14, sec. 18, Petronilla ranch. Cg. 5,546 ft.

San Patricio County

Conroe Drlg. Co. No. 1 Foley, SE¼, Blk. 42, Delmos Sur. Drlg. 4,637 ft.
Danray Oil Co. No. 1 Davis, Tr. 5, Wm. Boyd Sur. R.U.
Eleanor Oil Co. No. 1 Green Est., 167.4-ac. tr., Williamson Sur.; (W.O.). Old T. D. 6,800 ft.; washing down 2,500 ft.
Humble O. & R. Co. No. 1 McCampbell 610.62-ac. tr., Martinez Sur. R.U.

Starr County

Calderoni-James-Follette No. 1 Rodriguez, Blk. 6, Sh. 56, Porc. 80. Set sur. csg. 100 ft.; S.D.
Cook, Morris & Arnold No. 2 S.C.C.C., Blk. 23, Porc. 89. Cg. 2,457 ft.
Donroy Oil Co. No. 1 Ramon, 2,400 ft. SE line, 150 ft. SW line, sec. 150. Cg. 1,281 ft.
Henry Mode et al No. 1 Kelsey-Bass, Blk. 7, Porcs. 86 and 87. S.D. 990 ft.
Schwab & Foster No. 1 Munoz, 1,478-ac. tr., El Javali Gr. D.&A. 2,309 ft.

Transwestern Oil Co. No. 2 Slick, 330 ft. N and E lines, sec. 527. T.D. 5,659 ft.; S.D.

Webb County

Bolling & Coffey No. 1 South Texas C. Co., Sur. 768. Drlg. 2,527 ft.
Dolores Oil Co. No. 1 Adami, SE¼, Sur. 15. Drlg. 1,021 ft.
Eugene Garner No. 2 Saldivar, Blk. 12, Sur. 567. Oil sd. 997-1,000 ft.; flwd. 3 B.P.H.; acdzg.
O. W. Killam No. 1 Perez, Sur. 1007. R.U.
J. W. Magee No. 1 Garcia, Blk. 21, James Subd. R.U.; S.D.
Paul Meaders No. 1 Garcia, Sur. 338. Loc.
Mills Bennett Prod. Co. No. 3 Slator, Blk. 92, Saltor ranch, Borrego Gr. D.&A. 1,551 ft.

Willacy County

Ruez-Morton, Inc., No. 1 F. Armendiaz, C Lot 9, Sh. 4, San Juan de Carricitos Gr. Drlg. 537 ft.
Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. S.D. 643 ft.

Wilson County

Maryland Oil Co. No. 1 Rice, 93-ac. tr., Mays Sur. Drlg. 4,156 ft.

Zapata County

Allison & Abrams No. 1 Vela, Sur. 249. Drlg. 327 ft.
H. Guinn Lewis No. 1 S. Benavides, Blk. 39, Villa Gr. D.&A. 2,203 ft.
O. W. Killam No. 1 Bruni, Blk. 83, Ranchito Pasture, Borrego Gr. R.U.
J. O. Sheffield No. 1 Buck, Blk. 15, Sur. 273. Drlg. 1,253 ft.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 2 Maryland Trust Co., 330 ft. N and E lines, Blk. 23. Set csg. 6,516 ft.; T.D., sh. 6,552½ ft.; jetting S.W. and oil; (fluid 95% S.W. and 5% oil); plg. lnr. to deepen.
Atlantic Ref. Co. No. 1-B Murray, Lot 16, Blk. 12. Cg. 6,796 ft.
Atlantic Ref. Co. No. 1 Porterfield, Lots 9 and 10, Blk. 14. Drlg. 5,866 ft.
Buckingham Oil Co. No. 6-A McCampbell, Lot 5, Blk. 41 (W.O.). Sd. 6,782-94 ft.; perf. csg. 6,783½-87 ft.; flwg. into stg.; no gauge.
Buckingham Oil Co. No. 8-A McCampbell, "A" Lse., Blk. 42. Drlg. 4,069 ft.
Collins & Broughton No. 1 McCampbell, Lot 5, Blk. 37 (W.O.). Drlg. 6,865 ft.
Eleanor Oil Co. No. 1-A McCampbell, Blk. 58. Sd. 7,102-21 ft.; set csg.; W.O.C.
Landreth Prod. Co. No. 3-A McCampbell, Lot 1, Blk. 40. Set csg. 1,249 ft.; W.O.C.
Rutherford & Eaton No. 2 Scrivner, Lots 13 and 14, Blk. 11. Drlg. 3,215 ft.
Shasta Oil Co. No. 1 McCampbell, Lot 13, Blk. 10. Loc.

North Dale—Bastrop County

Easton & Manning No. 1 Duran, S. Flint Sur. Cg. sh. 2,296 ft.

Plummer—Bee County

Ann Oil Co. No. 2 Smith, J. R. Johnson Sur. Sd. 3,038-59 ft.; comp.; 144 B.P.D.
W. C. McBride, Inc., No. 1-B Plummer, Johnson Sur. Plug perf. 3,057 ft.

West Tulsta—Bee County

Saltdome Oil Co. No. 1 Striebeck, Blk. 3, sec. 20, Uranga Gr. Sd. 3,136-45 ft.; S.O.; swbg.

Von Ormy—Bexar County

Shadrock Oil Co. No. 10 Barragan, J. Simpson Sur. Sd. 570-620 ft.; comp.; 6 B.P.D. on pmp.

Alta Mesa—Brooks County

Standard of Texas No. 4 Garcia, Lse. 2, Tr. 2, Sh. 1-A, La Mestina y Gonzales Sur. Drlg. 1,491 ft.
Standard of Texas No. 5 Mestina, Lease No. 1. Cg. ahead 3,923 ft.

Alta Verde—Brooks County

Lynway Oil Co. No. 1 Singer, Blk. 9, Sur. 436. R.U.
Wyrick Well Sur., Inc., No. 1 Singer, Sur. 436. Drlg. 237 ft.
Dick Young No. 5 Singer, Blk. 12, Sur. 312 (W.O.). T.D. 1,149 ft.; D.S.T. 1,144-49 ft.; rec. oil and oily mud; cg. ahead 1,245 ft.

Luling-Branyon—Caldwell County

Fred Adams No. 2-B Ellison, Jarmon Sur. R.U.
Fred Adams No. 8 Ellison, D. Cooper Sur. T.D. 2,313 ft.; comp.; pmpg.; no gauge.
Blundell Oil Co. No. 3 Luce, J. Neill Sur. Set csg. 56 ft.; T.D. 2,114 ft.; comp.; no gauge; on pmp.
Chiquita Oil Co. No. 5 Robertson, Neill Sur. Set csg. 2,216 ft.; rng. tbg.
Easton & Manning No. 5 Lawler, J. Pinchback Sur. Set csg. 2,100 ft.; bailing 2,-190 ft.
Lanning & Coffield No. 2 Corder, J. A. Neill Sur. T.D. 2,137 ft.; set csg. 2,023 ft.; flwg. by heads.
Lincoln Pet. Co. No. 4 Brown, D. Cooper Sur. T.D. 2,303 ft.; completing.
Lincoln Pet Co. No. 5 Callihan, D. Cooper Sur. Rng. csg. 2,065 ft.
Magnolia Pet. Co. No. 14 Tiller, Henry Sur. T.D. 2,094 ft.; prep. acidize.
R. Mallory No. 1 Brown, Miller Sur. T.D. 2,066 ft.; comp.; 65 B.P.D.
R. Mallory No. 2 Brown, J. R. Miller Sur. R.U.
Martel Pet. Co. No. 1 MacMahon, J. Pinchback Sur. Set surf. csg.; swbg. oil 2,-153 ft.
Rio Bravo Oil Co. No. 14-L Merriweather, J. Henry Sur. Drlg. ch. 1,726 ft.
Sherman Nelson No. 1 Best, Neill Sur. T.D. 2,284 ft.; W.O. pmp.
Sherman Nelson No. 1 Clark, Tiller Sur. T.D. 2,193 ft.; comp.; on pmp.; no gauge.
B. F. Robinson No. 1 Young, Miller Sur. Set csg. 2,180 ft.; W.O.C.
Rosita Oil Co. No. 1 Lockhart State Bnk., J. Roe Sur. Drlg. 1,395 ft.
Taylor Ref. Co. No. 4-B Branyon, D. Cooper Sur. T.D. 1,900 ft.; drlg. sdtrkd. hole 521 ft.
S. M. Vaughy No. 5 Flowers, Neill Sur. T.D. 2,160 ft.; bailing.
R. Wyrick et al No. 2 Magee, Neil Sur. Drlg. 2,173 ft.

Buchanan—Caldwell County

Easton & Manning No. 1 Cude, Spillars Sur. Comp.; 65 B.P.D.; Serp. 1,980-85 ft.
Edwell Oil Co. No. 3-A Cude, Wm. Spillars Sur. R.U.
L. G. Priest No. 1 Chambless, S. Goodman Sur. S.D. 1,000 ft.
Texas Gulf Pet. Co. No. 1 Medlin, Camon Sur. Sat. chalk 2,035-57 ft.; set csg. 2,-057 ft.; W.O.C.
W. M. Vaughy No. 1 Clark, J. Miller Sur. Set csg. 2,055 ft.; T.D. 2,180 ft.; W.O.C.

Dunlap—Caldwell County

Kay Oil Co. No. 1 Dunlap, S. Seale Sur. Chalk 1,928-2,036 ft.; set csg.; S.D.
Sherman Nelson No. 1 Moore, Clinton Sur. R.U.
Stapper Pet. Corp. No. 1 Martin, A. Floyd Sur. T.D. 1,800 ft.; S.D.

Larremore—Caldwell County

Lee Ross et al No. 1 Starke, Crenshaw Sur. Set csg. 1,255 ft.; W.O. pmp.

Salt Flat—Caldwell County

Chiquita Oil Co. No. 5 Hickman, G. Hinds Sur. Set csg. 2,639 ft.; W.O.C.

Colmena—Duval County

Conservative Oil Co. No. 5 D.C.R.C., Blk. 8, Sur. 52. Sd. 1,435-42 ft.; gas; S.D.; W.O.O.
Humble O. & R. Co. No. 2-D D.C.R.C. Sur., sec. 585. Drlg. sh. 1,486 ft.
Magnolia Pet. Co. No. 1 D.C.R.C., sec. 49. Spd.
Wellington Oil Co. No. 5 D.C.R.C., Blk. 10, sec. 51. R.U.

Driscoll—Duval County

Continental Oil Co. No. 15-A Driscoll, sec. 448. Drlg. 1,287 ft.

Government Wells—Duval County

Central Producers, Inc., No. 4 Luptack, 50-ac. tr., Sur. 41. Sd. 2,435-42 ft.; set csg.; W.O.C.

Hoffman—Duval County

Cox & Hamon No. 1-A Green, 121.3-ac. tr., sec. 118. Sd. 2,721-24 ft.; comp.; 50 B.P.D.
Relience Oil & Roy. Co. No. 2 Ruiz, Sur. 125. T.D. 2,565 ft.; comp.; 35 B.P.D.
Relience Oil & Roy. Co. No. 3 Ruiz, Sur. 125. M.I.M.

Kohler—Duval County

Chiquita Oil Co. No. 1 Peters, 162-ac. tr., Sur. 162. T.A. 100 ft.

Labbe—Duval County

Humble O. & R. Co. No. 2 Roos, sec. 119. Set csg. on sd. 2,855 ft.; sd. 2,849-55 ft.; comp.; 20 B.P.D.
Humble O. & R. Co. No. 4 Roos, sec. 119. Drlg. sh. 2,655 ft.
Magnolia Pet. Co. No. 4 Labbee ranch, Sur. 1. T.D. 2,884 ft.; swbg. 2,879 ft.

Loma Novia—Duval County

F. J. Gravis No. 4 Hahl, Sur. 64. R.U.
Hamill & Smith No. 12-C Hahl, Sur. 63. Sd. 2,570-85 ft.; comp.; est. 125 B.P.D.
Hamill & Smith No. 14-C Hahl, Sur. 63. Drlg. 1,226 ft.
Humble O. & R. Co. No. 13 Vela, Sur. 42. Sd. 2,672-87 ft.; comp.; 10 B.P.D.
Reynosa Oil Co. No. 1-C McLean, Sur. 62. Drlg. 2,620 ft.
Shell Pet. Corp. No. 10 Bishop, Sur. 59. Drlg. 2,652 ft.

Loma Vista—Duval County

Wellington Oil Co. No. 3-A Welder, sec. 103. Drlg. 1,811 ft.

Lopez—Webb-Duval Counties

W. C. Billings No. 4 fee, Sur. 2. Oil sd. 2,299½-2,303½ ft.; set csg. 2,298 ft.; W.O.C.
Superior Oil Co. No. 23 Billings, Sur. 109. Comp.; 60 B.P.D.; T.D. 2,289 ft.
Superior Oil Co. No. 24 Billings, Sur. 109. Comp.; 40 B.P.D.; T.D. 2,288 ft.
Superior Oil Co. No. 25 Billings, Sur. 109. Drlg. 1,067 ft.

North Sweden—Duval County

Argo Oil Co. No. 1 Carrillo, NE¼, sec. 9. Set surf. csg. 514 ft.; W.O.C.
Arkansas Fuel Oil Co. No. 1 Vaello Puig, 330 ft. N and E line, sec. 10, Sweden Farm Lots. R.U.
Benedum & Trees Oil Co. No. 1 Puig, 330 ft. N and W lines, 750-ac. tr., San Andres Gr. Sd. 4,738-51 ft.; comp.; 118 B.P.D.
Benedum & Trees Oil Co. No. 2 Puig, 750-ac. tr., San Andres Gr. R.U.
Frank Gravis No. 2 Vaello Puig, 990 ft. S line, 330 ft. W line lse., San Andres Gr. Sd. 4,784-96 ft.; comp.; est. 216 B.P.D. on 5/32-in. ck.
Highland Oil Co. No. 2 Farias, sec. 9, Sweden Subd. Spd.
Parr Oil Co. No. 1 Vaello Puig, Sur. 24. S. Flores Gr. Sd. 4,784-96 ft.; set csg.; comp.; est. 250 B.P.D.
Parr Oil Co. No. 2 Puig, 150-ac. tr., Sur. 24, Santos Flores Gr. R.U.
Reynosa Oil Co. No. 1 Wilson, Blk. 9, Sweden Farm Lots. Sd. 4,763-75 ft.; clg. in pits.
Smith & Storey No. 1 Smith, Blk. 9 Sweden Farm Lots. Sd. 4,766-79 ft.; completing.

Palangana—Duval County

F. J. Gravis No. 2-A Schallert, Sur. 255. Set sur. csg.; W.O.C.
Penn Palangana Oil Co. No. 1 C. K. Gravis Sur. 250. Drlg. 4,210 ft.
Tuttle & Trahan No. 1 Megerle, Sur. 245. S.D. 1,060 ft.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 4 D.C.R.C., Sur. 203. T.D. 2,200 ft.; P.B. and set csg. 1,247 ft.; W.O.C.

Sarnosa—Duval County

Seaport O. & G. Co. No. 7-A D.C.R.C. Sur., W¼, sec. 574. Sd. 2,401-06 ft.; T.D. 2,-435 ft.; D.&A.

Seven Sisters—Duval County

A. J. Brinkoeter No. 3 Garcia, Sur. 212. Comp.; 112 B.P.D.; sd. 1,559-66 ft.
A. J. Brinkoeter No. 4 Garza, Sur. 212. Spd. in.
Humble O. & R. Co. No. 15 Dowdy, sec. 272. Set csg. 2,578 ft.; D.&A.
Humble O. & R. Co. No. 18 Dowdy, Sur. 272. Drlg. sh. 1,750 ft.
Westheimer & Daube No. 33 Campos, Sur. 224. Drlg. 1,456 ft.

Sweden—Duval County

Hiawatha Oil Co. No. 2 Herberger, SW¼, Blk. 14, Agua Poquita Gr. T.D. 5,914 ft.; P.B. sd. 5,072-91 ft.; perf. 5,080-84 ft.; reworking.
Hiawatha Oil Co. No. 2 Miller, sec. 24, Santos Flores Sur. Loc.

Thomas-Lockhart—Duval County

Thomas Est. & Lockhart Bros. No. 2 Parr SW¼, sec. 26. T.D. 4,904 ft.; P.B. and set csg. 4,680 ft.; rng. tbg.

Pearsall—Frio County

Amerada Pet. Corp. No. 1 Halff & Oppenheimer (W.O.). Old T.D. 6,312 ft.; recmtg. csg. 6,314 ft.
Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur. 1,104 (W.O.). Drlg. 10,650 ft.
Amerada Pet. Corp. No. 1 Kothman, B. L. Crouch Sur. (W.O.). Old T.D. 4,370 ft.; T.D. 5,559 ft.; fsg.
Amerada Pet. Corp. No. 4 Smith, Mason Sur. 322 (W.O.). Old T.D. 6,238 ft.; R.U.

Clark—Guadalupe County

J. E. Clark No. 1 Knodel, G. DeWitt Sur. T.D. 2,462 ft.; comp. on pmp.; no gauge.

Darst Creek—Guadalupe County

Freeman Oil Co. No. 3 Larrison, G. DeWitt Sur. T.D. 2,700 ft.; dry; P.B. 2,450 ft.; W.O.C.
Saxet Prod. Co. No. 4 Grimm, DeWitt Sur. Comp.; 25 B.P.D.; T.D. 2,660 ft.
Saxet Prod. Co. No. 5 Grimm, DeWitt Sur. T.D. 2,580 ft.; W.O.P.
Saxet Prod. Co. No. 2 Wilson, G. DeWitt Sur. No. 13. Drlg. plugs in chalk.

Manford—Guadalupe County

J. K. Blackmor No. 1 Appling, J. Hodges Sur. S.D. 240 ft.
J. K. Blackmor No. 1 Mackey, Hodges Sur. Comp.; 20 B.P.D.; T.D. 2,662 ft.

Zoboroski—Guadalupe County

Louis Crouch No. 1 King, Clements Sur. Comp.; 5 B.P.D.; T.D. 1,900 ft.
Donan et al No. 1 State, 30-ac. tr., on bank Guad. River. Set csg. 2,159 ft.; fsg.
Felmont Oil Co. No. 1 Schueneman, G. DeWitt Sur. T.D. 2,662 ft.; comp.; 75 B. P.D.
Ogden & Reed No. 1 Hoffman, G. DeWitt Sur. T.D. 2,497 ft.; stdg.
W. J. Walton No. 4 Hoffman, DeWitt Sur. Swbg. oil 2,433 ft.

Samfordyce—Hidalgo-Starr Counties

Dean Bros. No. 1-C George, 20-ac. tr., Sh. 13, Porc. 41. Set csg. 150 ft.; W.O.C.
Ralph E. Fair, Inc. No. 4 Flores, 30-ac. tr., Tr. 250, Porc. 38. Comp.; 25 B.P.D.; T.D. 2,973 ft.
Ralph E. Fair No. 3 Flores, 30-ac. tr., Tr. 250, Porc. 38. Drlg. 425 ft.

LaBlanca—Hidalgo County

Atlantic Ref. Co. No. 1 Engleman, Lot 6, Blk. 95. Loc.
Dee, Davenport No. 1 Swallow, Blk. 215. R.U.
Fohs Oil Co. No. 1 Harding, Blk. 89. Loc.

Armagosa—Jim Hogg County

Texmalis & Reese No. 1 Earhart, John Suggs Sur. T.D. 4,000 ft.; washing down to take sidewall core.

Henne-Winch-Fariss—Jim Hogg County

Sheppell Oil Co. No. 1 Thompson, Blk. 2, Las Animas Gr. D.&A. 1,325 ft.

Bentonville—Jim Wells County

Camp Prod. No. 1 Bird, Sh. 7-A, Abajo Gr. Drlg. 5,165 ft.
Camp. Prod. Co. No. 2-B Pope, N½, sec. 13, King Farm Lots. Drlg. 545 ft.
Texon Drlg. Co. No. 2 Ralston, 990 ft. N line, 330 ft. W line, sec. 17. R.U.

Sandia—Jim Wells County

Geo. E. Smith No. 1 Wade ranch, Lot 1, Blk. "B," Bode Subd. Sd. 5,130 ft.; tried to blow out; set csg.; pmpg. in heaving mud.
Goe. E. Smith Drlg. Co. No. 2 Wade ranch, Lot 1, Blk. "B," Bode Subd. Set csg. 298 ft.; W.O.C.

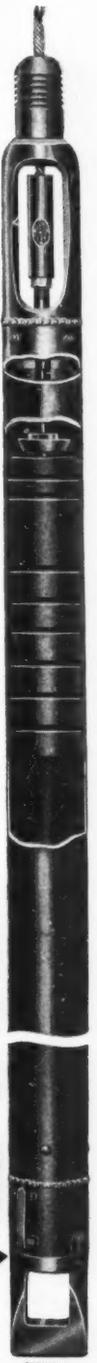
West Premont—Jim Wells County

C. G. Glasscock No. 2 Ritter, Lot 36, sec. 76. T.D. 2,358 ft.; shut in; stdg.
Graham & Gilcrease No. 2-A Laughlin, C Lots 23 and 26, sec. 76. Comp.; jetting

MORE

MILLER SAND PUMPS ARE USED IN CLEANING OUT WELLS THAN ALL OTHER SAND PUMPS MADE

The Reason IS BUILT INTO THE MILLER



● THE RESULT

Is oil in your tanks in place of sand in your well. Get FULL *production from your wells,* CLEAN OUT *with a* MILLER.

The MILLER is made in diameters of 2½, 3, 3½, 4, 4½, 5, 5½, 7 and 9 inches and lengths of 20, 25 and 30 feet. 5/32-inch wall thickness in REGULAR Type, ¼-inch wall tubes HEAVY Type Sand Pumps.

INTERCHANGEABLE BOTTOMS
To Meet Every Condition

● BAILER BOTTOM
With the Bailer Bottom installed the MILLER is quickly changed to a Bailer giving you a combination of either Bailer or a Sand Pump in one tool.

● SAND BOTTOM
Used when tools are run and when well is shot to quickly remove loose material.

● STAR BOTTOM
Used for cutting the sand loose.

● CHISEL BOTTOM
(In Pump)
With this bottom tightly packed sand can be easily broken in small pieces so it can be picked up in the pump.

Write for Descriptive Folder and Price List

See Page 1186 COMPOSITE CATALOG

PATENTED
NO. 1370340
NO. 1523604
NO. 1787290
NB. 1862628
NO. 1866626
NO. 2055667

MILLER Sand Pump Co.

General Offices and Shop, Box 4516
OKLAHOMA CITY, OKLA., U. S. A.

Branch Shops and Offices:
SAPULPA, OKLA. and KILGORE, TEX.

FOR SALE BY SUPPLY STORES EVERYWHERE

gas and 1 B.P.D. dist. on ⅝-in. ck.; T.D. 3,221 ft.
Graham & Gilcrease Oil Co. No. 2-B Laughlin, sec. 77. Tstg. 3,317 ft.
Graham & Gilcrease No. 4 Laughlin, Lots 94 and 99, sec. 77. Cg. in second hole 3,298 ft.
Henshaw Bros. No. 1 McGuffin, W½, sec 230. R.U.
Premont Roy. Co. No. 1 Fealey, Lots 18 and 31, sec. 72. Drlg. below surf. csg.
Homer Presnall No. 1 Heron, Lots 22 and 27, sec. 72. Sd. 3,184-96 ft.; tstg.
Trio Oil Co. No. 1 Laughlin, Lots 33 and 48, sec. 77. Sd. 2,241-46 ft.; set csg. 2,-235 ft.

North Pettus—Karnes County

Magnolia Pet. Co. No. 15 Porter, B.&B. Sur. 25. Spd.

Kingsville—Kleberg County

Buchanan Drlg. Co. No. 11 Dennett, C SE¼, Lot 18, sec. 88. Tstg. 1,790 ft.

Ezell—McMullen County

Edwin M. Jones No. 4 Ezell, sec. 20, Russell Sur. No. 12. Sd. 1,525-34 ft.; perf. 1,523-33 ft.; comp.; 10 B.P.D. on ¼-in. ck.
Edwin M. Jones No. 5 Ezell, sec. 39, Bremer Sur. No. 7. Loc.

Calliham—McMullen County

Harrison & Danvers No. 1 Claunch, Hely Sur. T.D. 1,060 ft.; comp.; 36 B.P.D.
Harrison & Danvers No. 1 Jungeman, Hely Sur. Fsg. 1,270 ft.
Wm. Howard No. 8 Claunch, Hely Sur. Sd. 1,053-63 ft.; fsg. for bailer.

Jacob—McMullen County

National Pet. Co. No. 4-C Lark, Scrugham Sur., Blk. 129. Drlg. sh. 887 ft.

Loma Alta—McMullen County

Humble O. & R. Co. No. 2 Atkinson, Deen Sur. No. 13. R.U.
J. T. Lanier No. 1 Hagist, SE¼, N½, Sur. 481. S.D.

North Jacob—McMullen County

F. D. Salter No. 2 Griffith, Osborn Sur. Fsg. 940 ft.

Agua Dulce—Nueces County

Stoddard & Moss No. 1 Woffard, 320-ac. tr., sec. 206. T.D. 6,885 ft.; T.A.
Texon Drlg. Co. No. 2-B Sevier, 680-ac. tr., Palo Alto Gr. Perf. csg. 5,800-10 ft.; comp.; 30 B.P.D.; dist. on ¼-in. ck.
United Prod. Co. No. 1 Harvey, 1,100 ft W line, 1,050 ft. N line, tr., M. Garza Sur. Set 5⅛-in. csg. 7,457 ft.; perf. csg. 7,375-84 ft.; flwg. 112 B.P.D. fluid, reported 25 to 30% oil, remainder S.W.; T.D. 9,003 ft.; recmtd. csg.; perftg. 7,-375-84 ft.

Chapman Ranch—Nueces County

Seaboard Oil Corp. No. 5 Chapman, sec. 38, Laurells Farm Lots. D.&A. 6,494 ft.

Flour Bluff—Nueces County

Humble O. & R. Co. No. 1 Bracht & Secrist, Lot 7, Blk. 47. Drlg. sh. 1,060 ft.
Humble O. & R. Co. No. 1 Brown, Blk. 28, sec. 48. Set csg. 6,670 ft.; making potential test.
Humble O. & R. Co. et al No. 1 Downie, Lot 18, Blk. 48. R.U.
Humble O. & R. Co. et al No. 1 Duncan, Lot 6, sec. 41. Drlg. sh. 5,532 ft.
Humble O. & R. Co. No. 5 Guiden, Lot 15, Blk. 47. Set csg. 6,669 ft.; comp.; 167 B.P.D. on ⅛-in. ck.; sd. 6,655-69 ft.
Humble O. & R. Co. et al No. 5-B Miller, Lot 19, Blk. 48. Set csg. 6,663 ft.; comp.; 168 B.P.D. on ⅛-in. ck.
Humble O. & R. Co. No. 1 F. G. and Kate Ritter, Lot 15, Blk. 55. T.D. 6,658 ft.; making potential test.
Humble O. & R. Co. No. 3 Robertson, Lot 11, Blk. 56. Swbg. 6,669 ft.
Humble O. & R. Co. et al No. 5 Webb, Lot 10, Blk. 56. Set csg. 6,666 ft.; flwg. into pits.

London—Nueces County

Atlantic Ref. Co. No. 1 Stockton, SW¼, sec. 12. Drlg. 4,993 ft.

Saxet Heights—Nueces County

Wm. Brady No. 1 Whelan, 56.9-ac. tr., Villareal Sur. Drlg. 3,697 ft.
Harrison Drlg. Co. No. 1 Simms, 4-ac. tr., Villareal Sur. T.D. 4,097 ft.; P.B. and sdtrkd. 3,928 ft.; set csg. in sdtrkd. hole 4,098 ft.; stdg.
Harrison Drlg. Co. No. 2 Whelan, Villareal Sur. Oil sd. 4,059-64 ft.; set csg. 4,-068 ft.; W.O.C.
H. M. Reed No. 2 Quinn, 28-ac. tr., Villareal Sur. Perf. csg. 4,072-76 ft.; flwg. into pits.
Roosth & Genecov No. 1 Rose, Lot 9, Blk. 11, Villareal Gardens. Drlg. 3,763 ft.
Ben F. Smith No. 1 Snowden, 13-ac. tr., Villareal Sur. R.U.

Saxet—Nueces County

Allen & Morris No. 1-B Solar Sevier, Villareal Sur. Sd. 4,827-59 ft.; comp.; 194 B.P.D.
C. Andrade No. 6 Frank, 28-ac. tr., Sur. 500. Drlg. 3,845 ft.
C. Andrade No. 9 McGregor-Belk, 130 ft. S line, 990 ft. E line, lse., Sur. 816. Cg. 6,297 ft.
Baltic Drlg. Co. No. 5 Harmon, Sur. 416. Drlg. 6,316 ft.
Bentex Drlg. Co. No. 4 Harmon, 50-ac. tr., Sur. 416. Drlg. 3,655 ft.
R. B. Bryant No. 2 Frank, Sh. "C," Sur. 416 (W.O.). R.U.
R. B. Bryant No. 6 Harmon, Sur. 416. Drlg. 5,556 ft.
Crown Central Pet. Corp. No. 4 Hunter, 159-ac. tr., Sur. 587. T.D. 4,813 ft.; set csg. 4,805 ft.; comp.; 52 B.P.D. on ⅝-in. ck.; sd. 4,808-13 ft.
Crown Central Pet. Corp. No. 8-B Morgan, 80-ac. tr., Sur. 315. Drlg. 3,215 ft.
Crown Central Pet. Corp. No. 4 Page, 75-ac. tr., Page Lds. Sur. Sd. 4,067-91 ft.; S.O.; tstg.
Donico Prod. Co. No. 2 Donnigan, 60-ac., tr., sec. 7, Rge. 6. Perf. 4,862-67 ft.; tstg.
Donico Prod. Co. No. 7 Donnigan, 60-ac. tr., sec. 7, Rge. 6. Set 16-in. csg.; W.O.C.
Donico Prod. Co. No. 10 Donnigan, 80-ac. tr., sec. 7, Rge. 6. Sd. 4,550-55 ft.
Floboots Oil Co. No. 1 Bliss, 25-ac. tr., Stevens Tr. Drlg. 6,667 ft.
Floboots Oil Co. No. 4 Humphries, Stevens Sur. W.O.; old T.D. 5,840 ft.; drlg. 6,231 ft.
Gilcrease Oil Co. No. 3 Sullivan, 140-ac. tr., Thos. Gallagher Sur. S.D. 3,852 ft.; W.O.O.
L. Glasscock No. 2-B Johns, 20-ac. tr., MacGregor Sur. 582. Cg. 4,827 ft.
Great States and Violet No. 9 McGregor-Belk, 73.6-ac. tr., sec. 311. Drlg. plugs 6,728 ft.
Hiawatha Oil Co. No. 7 Griffith, 100-ac. tr., Sur. 416. Cg. 6,769 ft.
Hiawatha Oil Co. No. 8 Hutchins-Stillwell, Lot 30, Sheppard Farm Lds. Sd. 6,888-7,004 ft.; perf. 6,886-92 ft.; comp.; 130 B.P.D. on 5/32-in. ck.; perf. 6,886-92 ft.
Hiawatha Oil Co. No. 10 Hutchins-Stillwell, Blk. 34, Sheppard Farm Lots. Set csg. 180 ft.; W.O.C.
Hiawatha Oil Co. No. 3-B Smith, Blk. 35, Sheppard Farm Lots. Cg. 5,817 ft.
Hiawatha Oil Co. No. 5-A Smith, Blk. 35, Sheppard Farm Lots. Drlg. 726 ft.
Houston Oil Co. No. 4-A Harrell, Blk. 28, Sheppard Farm Lots. Drlg. 204 ft.
Houston Oil Co. No. 9 McGregor, 135-ac. tr., Sur. 582. Sd. 6,719-32 ft.; D.S.T. 6,-727-32 ft.; rec. 550 ft. oil in 15 min.; W.P. 250 lbs.; tstg. 6,732 ft.
Houston Oil Co. No. 23 Morgan, sec. 7, Rge. 5. Drlg. plug 4,425 ft.; setting screen and lnr.
Houston Oil Co. No. 26 R. Morgan, 493.63-ac. tr., sec. 7, Rge. 6. Drlg. sh. 3,453 ft.
H. H. Howell No. 5 Hutchins, 80-ac. tr., Sur. 416. Drlg. 6,350 ft.
H. H. Howell No. 3 Morgan, sec. 415. Set csg. 7,000 ft.; W.O.C.
H. H. Howell No. 2 Plachey, Sur. 25. Drlg. 225 ft.
Kepley Prod. Co. No. 4 Donigan, 100-ac. tr., sec. 7, Rge. 6. Drlg. surf. plugs.
Morgan & Chapman Minerals Corp. No. 7 Morgan, NE¼, Sur. 405. Drlg. 6,443 ft.
Pan American Prod. Co. No. 6-B Sagarin, 82-ac. tr., Sur. 500. Cg. to 6,749 ft.; to D.S.T.
Pan American Prod. Co. No. 1-A Solar Sevier Sur. 582. D.S.T. 6,267-73 ft.; rec. 180 ft. oil and 5 ft. S.W.; W.P. 165 lbs.; 4 min.; set csg. 6,269 ft.; cleaning; T.D. 6,273 ft.
Phillips Pet. Co. No. 1 Frank, 27.5-ac. tr., Sur. 500. Drlg. 6,743 ft.
Phillips Pet. Co. No. 3 Perkins-LaGasse, 40-ac. tr., Stevens Sur. A-406. Drlg. 2,-473 ft.
Port O. & G. Co. No. 3 Cox & Cryder. Sd. 3,814-28 ft.; set csg. 3,851 ft.; W.O.C.
Potter & Snowden No. 1 Kocurek, 26-ac. tr., Smith Sur. 25. Sd. 4,102-12 ft.; comp. 160 B.P.D. on ⅝-in. ck.
Potter & Snowden No. 4 Kocurek, 26-ac. tr., Sur. 25. Drlg. 526 ft.
Potter & Snowden No. 1 Taggert, Blk. 5, Sur. 401. S.D. 4,679 ft.
Renwar & Maryland No. 1-A Rand Morgan, Sur. 415. O.W.W.O.; R.U. to deepen; old T.D. 5,825 ft.
Republic Nat. Gas Co. No. 5-A Donigan, 240-ac. tr., secs. 6 and 7, Rge. 6. Set csg. 4,600 ft.; perf. 4,395-4,400 ft.; completing.
Republic Nat. Gas Co. No. 19 Dunn, Blk. 37, Sheppard Farm Lots. Set csg. 4,-861 ft.; comp.; est. 200 B.P.D. on 5/32-in. ck.
Republic Nat. Gas Co. No. 3-A Morgan, sec. 405. Drlg. 1,780 ft.
Richardson Pet. Co. No. 18 Cain & Secrist, Lot 23, Russell Farm Trs. Sd. 4,-449-57 ft.; tstg.
Richardson Pet. Co. No. 2 Erwin, Sur. 500. Drlg. 5,315 ft.
Richardson Pet. Co. No. 5 Sedwick, Sur. 311. Set csg. 4,815 ft.; W.O.C.; T.D. 4,-902 ft.; perf. 4,418-28 ft.; comp.; no gauge.
Richardson Pet. Co. No. 6 Sedwick, 185.47-ac. tr., Sur. 311. Spd.
Richardson Pet. Co. No. 9 Quiros, Blk. 36, Sheppard Lots. Set csg. 5,850 ft.; comp.; no gauge.
Richardson Pet. Co. No. 11 Quiros, Sur. 311. Set condr. csg.; W.O.C.
Sancor Oil Co. No. 1 Isensee, Blk. 12, Sheppard Farm Lots, Sur. 313. T.D. 4,-557 ft.; swbg.
Southern Minerals Corp. No. 3 Elder, 60-ac. tr., Surs. 311 and 312. Drlg. 3,825 ft.
Southern Minerals Corp. No. 6 Isensee, Sur. 404; (W.O.). R.U.; old T.D. 6,290 ft.
Southern Minerals Corp. No. 2 Stillwell, 60-ac. tr., 122-ac. tr., Sur. 311. R.U.
Texon Drlg. Co. No. 7 Kocurek, 156-ac. tr., Sur. 316. Cg. 4,416 ft.
Texon Drlg. Co. No. 7 Ocker, 160.77-ac. tr., Sur. 316. T.D. 4,400 ft.; completing.

Sullivan—Nueces County

Lockhart et al No. 1 O. Purl, Lot 2, sec. 7, Ross Peters Subd. No. 2. Drlg. 6,-112 ft.

Midway—San Patricio County

Phillips Pet. Co. No. 1 Ivey, 990 ft. E line, 344 ft. S line, sec. K. Cg. 5,345 ft.

Plymouth—San Patricio County

Plymouth Oil Co. No. 74-C Welder, sec. 71. Sd. 5,458-72 ft.; set csg.; comp.; 188.5 B.P.D. on 9/64-in. ck.; perf. 5,472-76 ft.
Plymouth Oil Co. No. 75-C Welder, sec. 70. Sd. 5,466-75 ft.; set csg.; perf. 5,471-74½ ft.; comp.; 180 B.P.D. on ⅛-in. ck.
Plymouth Oil Co. No. 76-C Welder, sec. 70. R.U.
Plymouth Oil Co. No. 77-C Welder, sec. 71. R.U.

Taft Field—San Patricio County

Cage Prod. Co. No. 9 Mayo, 60-ac. tr., Fessenden Sur. Sd. 3,996-4,007 ft.; comp. 125 B.P.D. on 5/32-in. ck.
Esves Oil Co. No. 7 Britton, sec. 6. Cg. 4,937 ft.
Humble O. & R. Co. No. 23 Mayo, Ottman Sur. Set csg. 4,364 ft.; comp.; 75 B.P.D. on 7/64-in. ck.

Barbacoas—Starr County

K. E. Merren No. 1-A S.C.C.C., Blk. 34, Lambeth Subd., Porc. 89. Set csg. 5,-417½ ft.; flwg. est. 50 to 100 B.P.D. dist., and 12,000,000 to 15,000,000 ft. gas on 3/32-in. ck.

Cuevitas—Starr County

Sun Oil Co. No. 9-B Guerra, 330 ft. S and E lines, B Lse., Cuevitas Gr. Drlg. 2,-273 ft.

Los Olmos—Starr County

C. T. Daye No. 1 Seabury, Sh. 5, Porc. 75. D.&A.; T.D. 363½ ft.
St. Marys O. & G. Co. No. 1-E Kelsey-Bass, sec. 8, Porc. 76. Drlg. sh. 447 ft.

Ricaby—Starr County

Carter-Stiernberg No. 1 Vela, Lot 1, Blk. 4, El Tanque Subd., Porc. 84. Drlg. 427 ft.

South Ricaby—Starr County

G. E. Dodd, Tr., No. 2-A Wood Est., Porc. 84. Sd. 1,740-45 ft.; set csg. 1,741 ft.; comp.; 35 B.P.D. on ⅞-in. ck.; T.D. 1,-756 ft.
Dodd, Trs., No. 3 Wood Est., Porc. 84. Set surf. csg.; W.O.C.
Sun Oil Co. No. 1 Wardner Est., W2/7, Porc. 84. Drlg. 563 ft.

Rio Grande City—Starr County

Clopton & Reed No. 1 Green, Porc. 80. T.D. 4,600 ft.; S.G.; P.B. 1,681 ft.; set csg.; W.O.C.
Clopton & Reed No. 4 Tijerina, Lot 12, Sh. 14-C, Porc. 80. Cg. 1,423 ft.

Bruni-Cole—Webb County

Bishop Oil Co. No. 1 Bruni Est., Blk. 8, Sur. 8, Foltz Subd. Drlg. 163 ft.
C. C. Bonner No. 1 Cuellar, Sh. 4, Cuellar Gr. Drlg. 2,917 ft.
J. B. Cutbirth No. 1 Bruni, Blk. 5, Sur. 8. R.U.
Highland Oil Co. No. 3-B Bruni, Surs. 7 and 8. Drlg. 1,579 ft.
O. W. Killam No. 52 Bruni, Blk. 20, Sur. 8. Set csg. 3,421 ft.; comp.; est. 100 B. P.D.
O. W. Killam No. 53 Bruni, Blk. 19, Sur. 8. R.U.
Magnolia Pet. Co. No. 43 Brennan-Benavides, Blk. 11, Hale Subd. R.U.

Killam—Webb County

R. Killam No. 2 Garcia, Sur. 1099. S.D.; R.U.
O. W. Killam No. 2 Garcia, Sur. 1099. Sd. 2,017-18 ft.; set csg.; W.O.C.
O. W. Killam No. 2 Laurel Bros., Blk. 28, sec. 333. Sd. 2,032-34½ ft.; swbg.
Eugene Mays No. 1 Garcia, 120-ac. tr., Sur. 786. Loc.

O'Hern—Webb County

Magnolia Pet. Co. No. 28 Benavides, Hale Subd. Set csg. 2,879 ft.; W.O.C.
J. J. O'Hern No. 5-C Benavides. Sd. 2,863-83 ft.; set csg.; W.O.C.
Peggy-Sue Oil Co. No. 1 Benavides, Blk. 23, Hale Subd. Spd.
H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. Swbg. 2,916 ft.
Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.
Sun Oil Co. No. 10 Benavides, Blk. 441, Hale Subd. Tstg. 2,938 ft.

LaSal Vieja—Willacy County

Shell Pet. Corp. No. 1 Yturria, Sh. 64, Carricitos Gr. (W.O.); set csg. 7,630 ft.; cg. sh. 10,168 ft.

Byersville—Williamson County

D. Kinsey No. 1 Hoffman, White Sur. D. &A. 350 ft.
Taylor Ref. Co. No. 9-B Heap, H. White Sur. D.&A. 876 ft.

Chapman-Abbott—Williamson County

Joe E. Mills No. 1 Olive, S. Miller Sur. Drlg. 2,391 ft.

Escobas—Zapata County

E. Calloway No. 9 Bustamente, Sh. 8, Fansler Part. Comp.; 60 B.P.D.; T.D. 1,196 ft.
E. Calloway No. 8 Garcia, Sh. 3, Fansler Part. Sd. 1,182-84 ft.; dry; drlg. 1,193 ft.
Gilbreath Bros. No. 3 Bustamente, Sh. 10, Comitas Gr. Drlg. 1,121 ft.
Nordan & Morris No. 20-A Bustamente, Sh. 33, Comitos Gr. Drlg. sh. 963 ft.
Nordan & Morris No. 21 Bustamente, Sh. 33, Fansler Part. Comp.; 60 B.P.D.; T.D. 1,225 ft.
E. C. Reeves No. 2 Bustamente, Sh. 9, Fansler Part. Oil sd. 1,162-66 ft.; comp. on pmp.; no gauge.
Texas Co. No. 100 Jennings, Cerrito Blanco Gr. Drlg. sdy. sh. 1,240 ft.

Lopeno—Zapata County

Dalport Oil Corp. No. 1 Vela, Porc. 20 T.D. 2,541 ft.; D.&A.

E. C. TEXAS WILDCATS

Anderson County

Barnsdall Oil Co. No. 1 H. C. Swanson, R. Duty Sur., 10 mi. E of Palestine. Top Pecan 3,314-3,630 ft.; top Woodbine 4,406 ft.; drlg. 4,775 ft.

Bowie County

Chew & Bassett No. 1 Barkman. S.D. 2,439 ft.
Ferguson & Hill No. 1 Breckenridge. Coring 2,750 ft.
Sutton & Hawkins No. 1 McDuffie, John Ball Sur., 3 mi. NE of New Boston. Drlg. 5,200 ft.
Woodley & Bently No. 1 Lumpkin. Drlg. 4,130 ft.

Ellis County

Gigantic Oil Co. No. 1 C. H. Sullivan, S. Garcia Sur, 4 mi. N of Frost, 330 ft. E and S lines of 90⅝-ac. tr. Drk.

Falls County

H. H. Bell et al No. 1 A. Garrett, J. M. Sanches Sur. Drlg. 1,421 ft.
E. B. Collard et al No. 1 P. Neikamp, W. Hampton Sur., 3 mi. E of Lott. Drlg. 243 ft.

Freestone County

J. F. Lytle No. 1 R. Simmons, 23-ac. tr., R. B. Loughbotham Sur., 1 mi. S of Wortham. Upper Glen Rose 3,923 ft.; S.D. 4,000 ft.
C. E. Rossiter No. 1 J. P. Fulton in J. P. Fulton Sur., 2½ mi. E of Donie. Loc.

Henderson County

Tide Water Assoc. et al No. 2-C McElreath & Suggett, W. P. Wyche Sur. W.O.C. 1,378 ft.

Houston County

American Liberty Oil Co. No. 1 W. L. Moody, S. E. Parker Sur., 1¼ mi. NW of Grapeland. Top Pecan 4,549 ft.; drlg. 5,036 ft.

Hunt County

Stanolind O. & G. Co. No. 1 J. P. Hawks R. Ragsdale Sur., near Campbell. Top Paluxy 4,383 ft.; top Glen Rose 4,815 ft.; top anhydrite 5,335 ft.; base massive anhydrite 5,560 ft.; drlg. 5,858 ft.

Limestone County

Pure Oil Co. No. 16-T Kendrick, P. Varella Sur., Mexia field. Top Georgetown 3,365 ft.; W.O.C. 3,951 ft.

Rusk County

Barnett Pet. Corp. No. 1 S. C. Sanford W. A. Corder Sur., 10 mi. E of Mt. Enterprise. Drlg. 600 ft.
General Crude and others No. 1 Bivins Est., 6,450 ft. S and 1,550 ft. E and 750 ft. W of 225.9-ac. lease in R. Williams Sur., 6 mi. N of Latum. Loc.
J. W. Shipman et al No. 1 Citizens Bank, J. J. Y'Barbo Sur., 4 mi. NE of Henderson. S.D. 3,510 ft.

Smith County

T. W. Doswell et al No. 1 J. Allred, B. Lafferty Sur., 3 mi. N of Troup. Pecan Gap 2,888-3,280 ft.; drlg. 3,852 ft.

Upshur County

F. W. Maddox No. 1 S. T. Buie, 330 ft. out of SW cor. of W 28 acres of 158 acres in J. M. Dunn Sur., 4 mi. E of Gilmer. Loc.

Van Zandt County

Humble O. & R. Co. No. 1 L. K. Riggs, W. Daniels Sur. Skidded 100 ft.; top Austin 2,805 ft.; top Georgetown 3,675 ft.; S.D. 3,884 ft.

EAST TEXAS

(Border Counties)

Cass County

American Lib. Oil Co. No. 2 E. T. Tyson, Cass Sch. Ld. Sur. Drlg. 2,210 ft.
G. H. Chamblee No. 1 Collett, J. S. Smith Sur., 20-ac. tr. R.U.
Gulf Prod. Co. No. 1 W. T. Henry, H. Owens Sur., NW cor. survey. Drlg. 4,-120 ft.
P. L. Hoffman No. 2 Davis, J. S. Smith Sur. Drlg. 5,400 ft.
Magnolia Pet. No. 4 W. M. Hall, John N. Jackson Sur. 7-in. 6,055 ft.; T.D. 6,-067 ft.; W.O.C.S.
Magnolia Pet. No. 5 W. M. Hall, John N. Jackson Sur. 7-in. 6,024 ft.; T.D. 6,-045 ft.; W.O.C.S.
Magnolia No. 1 Hayer & Thatcher, Jacob Carsner Sur. T.D. 5,965 ft.; D.&A.
Magnolia Pet. No. 16 L. Haywood, P. Evans Sur. T.D. 6,020 ft.; rng. 7-in.
Magnolia Pet. Co. No. 18 L. Haywood, P. Evans Sur. Drlg. 5,782 ft.
Magnolia Pet. Co. No. 19 L. Haywood, P. Evans Sur. Drlg. 5,893 ft.
Magnolia Pet. Co. No. 20 L. Haywood, P. Evans Sur. Drlg. 2,370 ft.
Magnolia Pet. Co. No. 21, L. Haywood, P. Evans Sur. Drlg. 4,374 ft.
Magnolia Pet. Co. No. 22 L. Haywood, P. Evans Sur. Drlg. 5,960 ft.
R. W. Norton No. 5 Davis, H. Holbert Sur. Drlg. 4,314 ft.
R. W. Norton No. 11 L. E. Hardin, Dudley Gilleans Sur. Drlg. 5,174 ft.
R. W. Norton No. 5 J. T. Moore, J. S. Smith Sur. Drlg. 2,933 ft.
Ohio Oil Co No. 13 R. P. Willis, S.F.I.W Sur. No. 1263. Comp.; flw. 260 B.P.D.; T.D. 5,955 ft.
Ohio Oil Co. No. 19 R. P. Willis, S.F.I.W. Sur. Drlg. 200 ft.
W. G. Ray Drlg. Co. No. 1 Parker, G. Crowder Sur. Drlg. 5,850 ft.
Texas Co. No. 1 Chatten, Wm. R. Myers Sur. 6-in. cmtd. 5,968 ft.; T.D. 5,996 ft.
Texas Co. No. 8 McLeod, W. A. Elliott Sur. Tstg.; T.D. 6,111 ft.
Texas Co. No. 3 N. A. Rambo, Cass Cty. Sch. Ld. Sur. Drlg. 4,492 ft.
Texas Co. No. 4 N. A. Rambo, Cass Cty. Sch. Ld. Sur. Drlg. 4,668 ft.

N. K. Towns No. 1 Henry, H. Owens Sur. NW cor. Sur. Drlg. 5,315 ft.
United Gas No. 2 V. C. Bivens, J. Collom Sur. Drlg. 5,856 ft.
United Gas No. 1 Threwer, J. S. Smith Sur. Drlg. 5,326 ft.
United Prod. No. 2 Allday, 87-ac. tr. Drlg. 1,050 ft.
United Prod. No. 6 Baugus Unit, R. Trammel Sur. Prep. P.B.; T.D. 6,035 ft.
United Prod. No. 2 Belote, H. Holbert Sur. Drlg. 5,028 ft.
United Prod. No. 1 W. W. Herner, J. S. Smith Sur., on 14-ac. tr. Drlg. 5,225 ft.
United Prod. Co. No. 1 J. W. Land, R. Potter Sur. P.B. to 6,533 ft.; 5,000,000 ft. gas; tstg.
United Prod. No. 1 M. R. Lennard, J. S. Smith Sur., on 17-ac. tr. Drlg. 5,438 ft.

Harrison County

Gever Oil Co. No. 2-B Vincent, Davenport Sur. T.D. 2,392 ft.; S.D.

Marion County—Rodessa

Arkansas-La. Gas Co. No. 1 Allen Houston, A. D. S. Coy Sur. Drlg. 260 ft.
Arkansas-Louisiana No. 1 C. C. Braden T. Hanson Sur. Drlg. 6,041 ft.; S.G.
Arkansas-La. No. 1 Laura McIntosh, Edmondson Sur. Comp.; gauge 15 B.P.D.; 1,000,000 ft. gas; T.D. 5,980 ft.
Hunter Co. No. 2 Fonda, A. D. S. Coy Sur. Drlg. 400 ft.
Mid-Continent Pet. Corp. No. 1 Sory, A. D. S. Coy Sur. Drk.

Panola County

Glassell & Glassell No. 1 Pierce & Chesbro, Julia Soape Sur. Drlg. 3,820 ft.
Magnolia Pet. Co. No. 2 E. A. Hull, Thos. Applewhite Sur. T.D. 6,001 ft.; fsg. for stuck D.P.

Shelby County

Wm. Redditt No. 1 Pickering Lbr. Co., SE cor. Stephens English Sur. Drlg. 3,100 ft.

NORTH TEXAS WILDCATS

Archer County

O. P. Darsey No. 1 J. T. Longley, sec. 1839, T.E.&L. Sur. S.D.O. 810 ft.
Humble O. & R. Co. No. 22 G. B. Hamilton, sec. 1, I. Holman A-162 Sur. Drlg. 250 ft.
J. T. Miller No. 1 J. M. Bloodworth, M. Cartwright A-60 Sur. Drk.
S. & H. Drlg. Co. No. 1 C. A. Mangold, C. Wright Sur. Tstg.; S.S.O. 649-58 ft.

Clay County

L. T. Burns No. 1 Sanzenbacker, L. N. Sparks Sur. A-401. Drlg. 3,625 ft.
Foster Minerals Corp. No. 1 V. H. Yarbrough M. Lassiter Sur. A-288. Drlg. 1,640 ft.
Green Mt. Oil Co. No. 1 Staggs, sec. 34, A.C.S.L. Sur. Whipstocking 3,200 ft.

Collin County

F. Jones No. 1 Sherley, G. Morrison Sur. S.D.O. 3,003 ft.

Cooke County

V. E. Powell No. 1 D. B. Allred, G. DeLos Santos Sur. A-894. Drlg. 2,330 ft.
J. G. Richards et al No. 1 J. A. Yosten, T. Scott A-900 Sur. Spdg.
Sparks & Russell now Whitfield, Pearson & Grimes No. 1 C. F. Bundy, P. P. Cary Sur. A-1239. Drlg. plug.
Texas Co. No. 1 J. F. Marshall, A. Burns Sur. A-49. Drlg. 2,617 ft.

Denton County

California Ref. Co. No. 1 W. & S. Life Ins. Co., B.B.B.&C. Sur. A-783. S.S.O. 1,461-65 ft.; will test.
Oil Finance No. 1 J. S. Gambill. S.D.O. 2,365 ft.
A. A. Lander No. 1 Gibson, O. Wilcox Sur. A-1404. Spdg.
Manning & Moore No. 1 Dora Ratchford, J. Walters Sur. Spdg.

Grayson County

Denver P & R. Co. No. 1 Cannon, E. Barnes Sur. A-55. Loc.
Denver P. & R. Co. No. 1 McMenamy, J. Hertzog Sur. A-528. Material.

Jack County

H. M. Leidecker No. 1 J. W. Padgett, E. Allbritton Sur. A-1890. S.S.O. 3,198-3,218 ft.; tstg.
H. B. Madden No. 1 J. L. Mask, sec. 2708, T.E.&L. Sur. Sdy. L. 1,829-35 ft.; tstd. dry; S.D.O.
O J. Murray No. 1 W. J. Easterly, J. Helenstutter Sur. A-1269. Drlg. 110 ft.
R. A. Westbrook No. 1 Worthington-Knox, B.B.B.&C. Sur. A-185. Drlg. 1,550 ft.

Knox County

Denver P. & R. Co. No. 1 Waggoner, sec. 90, H.&T.C. Sur., Blk. E. Drlg. 1,610 ft.

Montague County

Benton & Holmes No. 4 Reed A, T. Robinson Sur. O.W.D.D.; B.O.S. 2,320-28 ft.; set 5-in. csg.; C.O. and tstg.; est 10 B. P.H.
Gibson & Jennings, Inc., No. 2 Roxye Howard, Blk. 90, K.C.S.L. Sur. A-407. Loc.
Moss Holmes No. 1 I. N. Monroe, F. Secrest Sur. A-665. S.D.O. 2,500 ft.
Lesh & McCall No. 1 Dodson, T. R. Jackson Sur. A-394. Drlg. 2,811 ft.
J. W. Sorrell et al No. 1 J. E. Walthall, S. H. Smith Sur. A-662. Drlg. 1,872 ft.
Ventex Investments, Ltd., No. 1 S. E. Bell, sec. 11, M.E.P.&P. Sur. Drlg. 3,155 ft.; (cor. depth).
Waters & Culbertson No. 1 J. Collier, A. Mizell Sur. A-488. Spdg.

Wichita County

Christie et al No. 1 Vanmeter, Blk. 35, K.W.V.F.L. Sur. L.S.O. 3,860-3,900 ft.; shot 150 qts.; C.O.
D. G. Parker No. 1 fee, sec. 22, P.P.C.S.L. Sur. A-241. Spdg.

Wilbarger County

James Blair Baker, Jr., No. 1 Waggoner-A, sec. 7, H.&T.C. Sur., Blk. 4. Loc.
Falcon Oil Co. No. 1 Waggoner, sec. 23, H.&T.C. Sur., Blk. 4. Loc.
King Oil Co. No. 1 Waggoner V, sec. 107, H.&T.C. Sur. Drlg. 1,810 ft.
F. A. Lain No. 1 J. Coffee, sec. 44, H.&T.C. Sur. Drlg. 5,680 ft.

Wise County

Latex Oil Co. No. 1 C. R. Smith, J. Couch Sur. A-104. S.D.O. 2,165 ft.; derrick pulled in.

Young County

F. W. Bennett No. 1 T. E. Mathews, I. Hughson Sur. A-2162. T.D. 4,200 ft.; P.B. to test sqy. L. 3,620-40 ft.
F. W. Bennett No. 1 R. V. Tidwell, J. L. Blackwood Sur. A-1378. U.R. 8¼-in. 2,210 ft.
Collins & Fitzwater No. 1 J. G. Castleman, sec. 72, T.E.&L. Sur. Drlg. 1,215 ft.
Hickok et al No. 1 A. P. Martin, V. H. Twilliger Sur. A-1883. Spd. and S.D.
C. A. Lupton et al No. 1 Hall, B. R. Aiken Sur. A-2241. T.D. 4,250 ft.; P.B. to test L. 3,742-3,850 ft.
T. G. Shaw Oil Corp. No. 1 J. L. McLaren, sec. 6, B.B.B.&C. Sur. A-29. T.D. 3,000 ft.; P.B. to test S.S.O. 2,929-70 ft.
Yorktex Pet. Co. No. 1 W. E. Steele, I.R.R. Sur. A-156. Cmtd. 6⅝-in. csg. 2,376 ft.; W.O.C.
H. Zweifel No. 1 E. S. Graham, B.S.&F. Sur. A-44. Drlg. 2,000 ft.
H. Zweifel No. 1 R. D. Sewell, M. Case Sur. A-1402. Drlg. 2,650 ft.

WEST TEXAS WILDCATS

Andrews County

Amerada Pet. Corp. No. 1 L. Lippman, 660 ft. from N and W, sec. 6, Blk. A-29, P.S.L. Sur. M.I.M.
W. G. Blanchard et al No. 1 Cox, C SW sec. 4, Blk. A-30, P.S.L. Sur. Drlg. 200 ft.
Sinclair Prairie Oil Co. No. 1 Emma Cowden, sec. 11, Blk. 44, Twp. 2n, T.&P. Sur. W.O.C. 3,962 ft.
Hargrove et al No. 1 Riordan, NW¼, sec. 10, Blk. A-44, P.S.L. Sur. W.O.C. 1,908 ft.
Landreth Prod. Co. No. 1 L. Jones, sec. 11, Blk. A-42, P.S.L. Sur. Drlg. 4,375 ft.

Bailey County

E. L. Wilson et al No. 1 Yellow House Land Co., Labour 4, Abner Taylor League 700. Elev. 3,687 ft.; T.D. 4,497 ft.; set csg.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 4,182 ft.
Storey No. 1 Wilson, sec. 3, Blk. 212, T.& St.L. Sur. Drlg. 2,200 ft.

Cochran County

Bond & Harrison No. 1 Cameron, Labour 1, League 85, Greer Co. School Lands. Drlg. 4,880 ft.; sulfur water 4,815 ft.

Coke County

H. E. Ogden et al No. 1 Rawlins, sec. 390, Blk. 1-A, H.&T.C. Sur. S.D. 515 ft.
Plymouth Oil Co. No. 1 Mrs. Mary Hanna, sec. 252, Blk. LA, H.&T.C. Sur., 1½ mi. SW of Blackwell. Drlg. 2,775 ft.

Crane County

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Drlg. 5,273 ft.

Crockett County

Superior Oil Co. of Calif. No. 1 J. S. Todd, C SE¼ sec. 55, Blk. UV, G.C.&S.F. Sur. Drlg. 5,779 ft.

Dawson County

E. L. Wilson No. 1 Scanlon, Sec. 83, Blk. M, E.L.R.R. Sur. Spudded.
E. L. Wilson et al No. 1 Texas Ld. & Mtg. Co., sec. 45, Blk. M, E.L.&R.R. Sur. R.U.S.T. 4,683 ft.

Edwards County

Dan Auld et al No. 1 Rigsby, sec. 16, Blk. OK. G.C.&S.F. Sur., 15 mi. NE of Rock Springs. Sat. L. 3,920 ft.; S.W. 3,943-52 ft.; S.D.
A. P. Carter No. 1 F. D. Sweeten, S&E sec. 48, Blk. 2, B&B Sur., 1½ mi. E of Rock Springs. M.I.M.

Ector County

Fuhrman Pet. Corp. No. 1 E. Cowden, 330 ft. from N and W. sec. 41, Blk. 43, Twp. 2s, T.&P. Sur. M.I.M.
Shasta Oil Co. No. 1 K. Sands, sec. 32, Blk. 44, T.&P. Sur. Loc.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless. S.D. 3,178 ft.
Martin & Brubaker No. 1 Brown, W. E. Richardson Sur., sec. 4, Blk. R. T.P. 3,192 ft.; S.D. 3,194 ft.; acidized 700 ft.; swabbing.
Southern Oil Co. No. 1 Robinson, sec. 172, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. T.D. 3,505 ft.; gravity 40.7 deg.

Gaines County

Amerada Pet. Corp. No. 1 A. Faskin, sec. 160, Blk. G, W.T.R.R. Sur. T.D. 3,350 ft.; set pipe.
A. G. Carter No. 1 A. L. Wasson et al, sec. 48, Blk. AX, P.S.L. Sur. Drlg. 4,837 ft.; sat. lime 4,805-25 ft.
Carter et al No. 1-B Wasson, 440 ft. from N and W, sec. 46, Blk. AX, P.S.L. Sur. Loc.
A. G. Carter et al No. 1 Moore-Langdon, sec. 44, Blk. AX, P.S.L. Sur. S.D. 1,837
Continental O. Co. No. 1 Jones, sec. 22, Blk. A-7, P.S.L. Sur. W.O.C. 2,120 ft.
Continental Oil Co. No. 1 Moore, sec. 46, Blk. AX, P.S.L. Sur. Spudded.
T. N. Sloan et al No. 1 Barber, NE cor. sec. 19, Blk. A-28, P.S.L. Sur. Drlg. 1,831 ft.
Wentz Oil Co. No. 1 Dalmont, sec. 5, Blk. A-22, P.S.L. Sur. Drlg. 4,537 ft.

Garza County

S. Caprito No. 1 Post Estate, sec. 230, Blk. 5, K. Aycock Sur. Drlg. 3,412 ft.

Glasscock County

Moore Bros. No. 1 King, sec. 46, Blk. 36, Twp. 1s, T.&P. Sur. Loc.

Hockley County

R. F. Duggan et al No. 1 Yellow House Land Co., cen. Labour 11, League 718. State Capitol Lds. M.I.M.
Stanolind O. & G. Co. No. 1 A. A. Slaughter, C SW¼ Labour 76, League 37, Zavalla Co. School Lands Sur. Loc.

Howard County

Iron Mt. Oil Co. No. 1 D. H. Snyder, sec. 28, Blk. 30, Twp. 1s, T.&P. Sur. M.I.M.
Shasta Oil Co. No. 1 Cora Echols, sec. 5, Blk. 15, T.&P. Sur. T.D. 2,880 ft.; pumped 52 bbls. oil and 6 bbls. water in 20 hrs.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Drlg. 3,100 ft.

Loving County

Finley et al No. 1 W. D. Johnson, sec. 24, Blk. 56, Twp. 1, T.&P. Sur. Fsg. 2,864 ft.
Stanolind O. & G. Co. No. 1 M. Kyle, sec. 20, Blk. 55, Twp. 1, T.&P. Sur. Top sd. 3,870 ft.; T.D. 3,984 ft.; testing.

Mitchell County

Grisham-Hunter Corp. No. 1 Morrison, sec. 34-29-1n, T.&P. Sur. Drlg. 400 ft.
Mitchell O. & G. Co. No. 1 Z. Morrison, sec. 36, Blk. 29, Twp. 1n, T.&P. Sur. S.D. 1,660 ft.

Pecos County

Cannon & Cannon No. 1 University, sec. 2, Blk. 20. Drlg. 737 ft.
Dobbs No. 1 University, sec. 30, Blk. 18. Drlg. 1,325 ft.
Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk 11, G.H.&S.A. Sur.; 5,000-ft. test. Drlg. 4,643 ft.
K. Kimberlin No. 1 Humble-Young, sec. 49, Blk. 10, H.&G.N. Sur. Drlg. 770 ft.
W. Y. Penn No. 1 Tipton, sec. 85, Blk. 8, H.&G.N. Sur. Drlg. 1,858 ft.
G. J. Smith No. 1 W. E. Smith, sec. 37, Blk. 1, I.&G.N. Sur. Drlg. 79 ft.
Tex-Mex Pet. Co. No. 1 Williams, sec. 79½, Blk. 8, H.&G.N. Sur. S.D. 1,165 ft.
Trans-Pecos O. Co. No. 1 Popham, Fsg. 535 ft.
Young No. 1 Perry, sec. 3, Blk. Z, T.C. R.R. Sur. Drlg. 1,500 ft.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Drlg. 2,167 ft.

Reagan County

Moore Bros. No. 1 University, sec. 8, Blk. 7. Spudded and S.D.

Runnels County

Hall Oil Co. No. 1 Beddo, 165 ft. from S and 1,150 ft. from E of NW C of 250 ac., sec. 51, Thompson Casey Sur. Spudded 50 ft.
K Z Oil Co. No. 1 B. Fletcher, E. C. Good Sur. S.D. 160 ft.
Price & Kramer No. 1 Giesecke, Blk. 227, Hughes Sur. S.D. 2,503 ft.
Stevens & Glover No. 1 Fowler, sec. 150, E.T.R.R. Sur., 2 mi. NE of Ballinger. Drlg. 502 ft.

Schleicher County

J. M. Cooper No. 2 B. Page, sec. 40, Blk. L, G.H.&S.A. Sur. Drlg. 1,433 ft.

Scurry County

Bristow & Cantrell No. 1 Tomlinson, sec 122, Blk. 97, H.&T.C. Sur. Drlg. 2,957 ft.; show oil.
E. L. Goos No. 1 Henderson, sec. 148, Blk. 97, H.&T.C. Sur. Drlg. 3,055 ft.
C. W. Guthrie et al No. 1 F. W. Hardee, sec. 99, Blk. 97, H.&T.C. Sur. S.D.

Terry County

Crump & Corrigan No. 1 Lewright, 660 ft. NE, sec. 1, Blk. C-37, P.S.L. Sur. T.D. 5,133 ft.; drilled plug.
R. L. Foree No. 1 A. E. Pool, sec. 54, Blk. D-11, D.&S.E. Sur. M.I.M.

Upton County

John Emsch No. 1 Lyon, sec. 8, Blk. 3½. W.O.C. 2,189 ft.
John Emch No. 1 University. Drlg. 1,956 ft.

Ward County

F. H. Murphy et al No. 1 Monroe, sec. 210, Blk. 34, H.&T.C. Sur. Water well.
Magnolia Pet. Co. No. 1-55 Sealey, sec. 55, Blk. F, G.M.M.B.&A. Sur. Fsg. 3,049 ft.
L. F. White et al No. 1 Rector-Monroe, E cor. sec. 3, Blk. 1, W.&N.W. Sur. Top Del. L. 4,635 ft.; top Del. sd. 4,670 ft.; S.O. 4,690 ft.; T.D. 4,700 ft.; P.B. 4,698 ft.; shot; S.D.

Yoakum County

Bahan et al No. 1 Shook Est., sec. 420, Blk. D, John H. Gibson Sur. Drlg 4,636 ft.
Magnolia Pet. Co. No. 1 Mrs. M. E. Taylor, sec. 201, Blk. D, John H. Gibson Sur. Elev. 3,607 ft.; T.D. 4,024 ft.; R.U.S.T.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

Charter O. & G. Co. No. 1 T. B. Slick, N edge of Grosvenor, sec. 41, H.T.&B. Sur. Fighting cave 712 ft.
Donald P. Kenyon No. 1 Stone, 2 mi. NW Brownwood, H. S. Thayer Sur. No. 206. Ellenberger test; drlg. 510 ft.
West Texas O. & R. Co. No. 1 J. P. Newton, 3 mi. S Cross Cut, W. L. Swain Sur. No. 145. M.I.M.

Callahan County

Owen Murray & Donald O'Neal No. 1 E. L. Estes, NW cor. county, 330 ft. from S and W of NW¼ sec. 66, T.&P. Sur., Blk. 14. Loc.
R. F. St. John No. 1 M. M. Perkins, 3 mi. N Clyde, sec. 73, B.B.B.&C. Sur. S.D. 1,325 ft.
B. A. Wilkinson, Trustee, No. 1 F. L. Martin, sec. 69, T.&P. Sur. Blk. 14. Drlg. 650 ft.

Coleman County

Dixie O.&G. Co. No. 1 Reaves, 6 mi. NW Bangs, J. M. Rhine Sur. No. 629. S.D. 300 ft.

Comanche County

N. D. Gallagher et al No. 1 Mrs. B. I. Terry, Desdemona pool, N. H. Kuykendall Sur. Skd. 10 ft. N.; R.U.

Eastland County

J. T. Anderson No. 1 Crist, 8 mi. N of Rising Star, sec. 36, Lavaca Co. Sch. Lds. Drlg. 2,895 ft.
Barnett Pet. Corp. No. 1 Downtain, 1½ mi SE of Eastland, sec. 2, E.T.R.R. Sur., Blk. 6. Drlg. 310 ft.
Barrett & Moon No. 1 Foote, 4 mi. NE Carbon, sec. 9, H.&T.C. Sur., Blk. 2. Spdg.
J. A. Bearman et al No. 1 Mrs. R. L. Poe, S edge Cisco, sec. 79, H.&T.C. Sur., Blk. 4. U.R. 6⅝-in. to 3,516 ft.
L. A. Thompson No. 1 C. V. Fox, 4½ mi. S of Ranger, Lot 28, McLennan Sur., Lge. 2. Drlg. 500 ft.

Haskell County

Danciger O. & R., Inc., No. 1 Pardue, 8 mi. E Stamford, sec. 48, Thos. Toby Sur., Abst. 396. U.R. 8¼-in. 1,625 ft.
Forest Dev. Corp. No. 1 Pardue, 6 mi. NE Stamford, sec. 1, H.&T.C. Sur., Blk. 1. Drlg. 1,850 ft.

Jones County

Fain & McGaha Oil Corp. No. 1 Eula G. Lucas, 5½ mi. NE Avoca, sec. 166, B.B.B.&C. Sur. Drlg. 1,460 ft.
G. M. Gillespie No. 1 W. H. McKeever, 4 mi. SE Anson, sec. 53, O.A.L. Sur. Sdy. L. 2,171-75 ft.; est. 5 bbls.; drlg. 2,305 ft.
Humble O. & R. Co. No. 1 Teaff Est., E S and W of NE¼ sec. 33, T.&P. Sur., Blk. 18. Loc. for 5,600-ft. Ordovician test. Drk. blew down; rebldg. drk.
T. D. Humphrey No. 1 F. D. Moore, 2 mi. S Hawley pool, 220 ft. from S and E lines of sec. 3, T.&P. Sur., Blk. 16. Drlg. 480 ft.
Moutray Oil Co. et al No. 1 G. M. Nugent, 3 mi. N of Hawley pool, sec. 23, T.&P. Sur., Blk. 15. U.R. 8¼-in. 1,685 ft.
Owens-Snebold Oil Corp. No. 1 J. L. Herndon, 2 mi. SW Anson, 330 ft. N and W lines of SW¼ sec. 16, S.P.R.R. Sur., Blk. 2. R.U. for 2,750-ft. test.
W. H. Peckham No. 1 Davis et al, 3 mi. SW Luecders, 200 ft. from S and E of Subd. 8, F. M. Smith Sur. No. 3. Drlg. 475 ft.
Riddle et al No. 1 J. D. Freeman, 8 mi. SW Anson, sec. 6, T.&P. Sur., Blk. 17. Drlg. 2,260 ft.
S. B. Roberts Co. and Brown Eagle Oil Co. No. 1 W. L. Lewis, 1 mi. NE of Hawley, M. Martinez Sur. No. 194. Drlg. 1,080 ft.

Runnels County

Hall Oil Co. Inc. & Jno. Caster No. 1 J. C. Beddo, 3 mi. N Ballinger. Blk. 51. D. Diaz Sur. M.I.M. for 3,600-ft. test. R.U.R.

Shackelford County

Danciger O. & R. Co. No. 1 Davis & Walker, SW part of county. U.R. 1,472 ft.
Humble O. & R. Co. No. 4 Geo. DeLafosse, E C line county, 330 ft. from S and 660 ft. from W of sec. 1550, T.E.&L. Sur. R.U.R. for Ellenburger test.
M. P. Moore et al No. 1 Geo. Gray, W side Bluff Creek pool, sec. 208, E.T.R.R. Sur. Drlg. 950 ft.
Ungren & Frazier No. 1 Snyder C, CSL of county, sec. 65, T.&P. Sur., Blk. 11. Loc.

Stephens County

Barnett Pet. Corp. No. 1 J. Q. Corbett, 4 mi. SE Ivan, 440 ft. due E NE cor. sec. 3, S.P.R.R. Sur., Blk. 3. Spdg.
Clark & Cowden et al No. 2 Echols Heirs, 6 mi. SE Ivan, sec. 10, S.P.R.R. Sur., Blk. 3. Drlg. 1,675 ft.
Philtop O. & G. Co. No. 1 T. M. Corbett, 8 mi. NE Caddo, Edward Romershausen Sur., Abst. 149. Drlg. 3,270 ft. with cable tools.

Stonewall County

General Crude Oil Co. No. 1 W. J. Bryan, 7 mi. N Hamlin, Subd. 10, Wm. Vardeman Sur. No. 347. Drlg. 1,550 ft.

Taylor County

Fe'mont Corp. No. 1 Blackwell & Phillips, 5 mi. NE Abilene, sec. 30, B.A.L. Sur. Drlg. 1,650 ft.
Hal Hughes et al No. 1 Manahan, 5 mi. S Abilene, sec. 14, L.A.L. Sur. Drlg. 2,125 ft.

PERSONAL

HARRY F. SINCLAIR, JR., was elected last week a member of the Consolidated Oil Corporation's board of directors, executive committee and finance committee. Twenty-one and more than 6 feet tall, he is leaving Dartmouth College after two years there "because I want to go to work." The elder Sinclair said: "My son's election does not mean he is going to have a mahogany desk and a big salary. It is part of his education. He will listen and learn. He will draw the pay of a common laborer and make his way the same as any other employe. He will have plenty of opportunity to realize his desire to go to work."

ANSON W. DWEN, superintendent of the gasoline department for J. E. Crosbie, Inc., has returned to Tulsa from a trip with his family to Paso Christian and Gulfport, Miss.; Mobile, Ala., and Hot Springs, Ark.

J. E. BAILEY, has resigned as chief petroleum engineer for the Texas Railroad Commission to take a similar post in the East Texas field for the Tide Water Associated Oil Company. He was formerly in the engineering department of the Cities Service Oil Company and Pure Oil Company. For the latter company he installed a salt-water disposal system in the Van field, which has been studied by major company engineers with the view of building similar systems in other fields in the state. He received his engineering education at Tulane University.

C. C. A. BEELS, lease buyer for the Carter Oil Company in Saginaw, Mich., was in the Tulsa office during the past week.

RONALD W. MacKINNON, refinery expert of Imperial Oil, Ltd., left Edmonton, Alberta, recently with a crew of men to carry on summer production and refining operations in the Fort Norman field.

H. JOHN EASTMAN, founder and president of the Eastman Oil Well Survey Company, accompanied by his daughter, MISS FRANCES EASTMAN, has sailed for Paris, where Mr. Eastman will deliver a paper before the World Petroleum Congress.

H. GORDON CALDER has been elected vice president and treasurer of the Southern Natural Gas Company, Alabama Gas Company and Alabama Natural Gas Company. Mr. Calder, who resides in Wilkes-Barre, Pa., retired as vice president and treasurer of a group of subsidiaries of the Federal Water Service Corporation to accept the new posts.

CLIFFORD E. SAVAGE, Tulsa, assistant chief scout for the Carter Oil Company, received a 20-year service pin last week. He joined the Carter in 1916.

CAPT. E. N. STANLEY, chief enforcement engineer of the Texas Railroad Commission, has announced his intention to go into private business. It is understood he will remain in East Texas.

L. L. AUBERT, chairman of the allocation committee which sets the allowable production for the Central Committee of California Oil Producers, has returned from a 30-day vacation spent in Honolulu.

ROY GETTINGS, Hyvis Oils, Inc., Warren, Pa., will lead discussions at the twelfth annual meeting of the Fire and Safety Marshals of the National Petroleum Association in Bradford, Pa., June 16 and 17.

J. M. CAMPBELL, recently elected president of the Reiter-Foster Oil Company, has assumed direct charge of the operations of that company, which has moved its headquarters from Tulsa to Houston, Tex.

HARRY TOM HUNTER, formerly field engineer for the Stanolind Oil & Gas Company at Greggton, in the East Texas field, has been transferred to the engineering department of that company in Fort Worth, Tex.

HAROLD L. ICKES, secretary of the interior, went to the Naval Hospital in Washington last week for "examination of a stomach disorder and a rest." His associates said his condition was not serious, but that if he followed the advice of physicians he would stay away from his office several weeks.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Attention is attracted to the recently opened Cushing pool in Oklahoma. The second completion, a mile from the discovery well, is good for 155 barrels a day at a total depth of 2,170 feet. It is owned by Slick & Jones.

Stock of the Waters-Pierce Oil Company (par $100) is quoted on 'change at $1,000 bid and $1,500 asked.

Deposits in the Exchange National Bank of Tulsa, organized a little more than two years ago, have risen from $404,674 to $1,261,739.

20 YEARS AGO

The second well in the new Towanda pool, Butler County, Kansas, Carter Oil Company's No. 1 Orban, offsetting the discovery well, starts at 10,000 barrels a day.

J. D. Lemex is the new division manager of the Oil Well Supply Company, with headquarters in Tulsa.

Root, Hupp and Duff, Cleveland, Ohio, oil men, sell their 12 oil properties in the Estill County field in Kentucky to the Ohio Oil Company for a reported $1,250,000. There are 89 producing wells on the properties.

June 5 marked the twenty-fifth anniversary of the terrible flood and oil fire in Titusville in 1892 which cost the lives of 60 people and destroyed millions of dollars worth of property.

Jackson Barnett, rich Oklahoma Indian, is given permission by the Interior Department to buy $800,000 worth of Liberty bonds.

10 YEARS AGO

The Seminole field in Oklahoma is producing 405,000 barrels per day.

D. R. Weller has been made president of the Standard Oil Company of Louisiana, succeeding the late C. K. Clarke.

A. W. Smiley, who managed the first oil pipe line, which extended from Miller Farm to Pit Hole, Pa., in 1865, and invented the gathering system in 1866, dies in Foxburg.

S. F. SHAW, consulting engineer, of San Antonio, Tex., is in the Corpus Christi district studying gas-lift problems.

ERNEST A. HANSON, Roswell, N. M., has been promoted to supervisor of the New Mexico district, U.S.G.S. FOSTER MORRELL, Tulsa, has been made deputy supervisor for the same department in the Oklahoma district.

GEORGE W. SELINGER, head of the proration department of the Skelly Oil Company, Tulsa, and MISS JILL ARMSTRONG, Houston, Tex., are to be married June 20 in the latter city. They will reside in Tulsa. The bride is a daughter of MR. and MRS. MATT ARMSTRONG.

HERBERT V. PETERSON, treasurer of the Hartol Products Corporation, and MISS GLADYS J. DOWNEY, of Bloomfield, N. J., were married in Boston, Mass., Friday, June 4. Mr. Peterson has been affiliated with Hartol since it was organized in 1921.

H. M. FISHER and H. A. BLACKWOOD, Oil City, Pa., will speak at the annual meeting of the Department of Standards and Tests of the National Petroleum Association scheduled for June 24 and 25 at the offices of the Standard Oil Development Company, Bayonne, N. J.

CLARENCE H. McKAY, superintendent of the Sinclair refinery at Sand Springs, Okla., left Tuesday of this week for Los Angeles, Calif., to take charge of the Richfield Oil & Gas Company's three plants there, representing the Sinclair interests. His successor at Sand Springs is E. W. HELLICK, formerly assistant superintendent at the Coffeyville, Kans., plant.

PARAGRAPHS

S. L. CLARK, JR., has moved from Philadelphia, Pa., to Shreveport, La., to take charge of the Royal Oil & Gas Company's production office, handling the Arkansas and North Louisiana properties. W. H. HOOVER, formerly with the same company in Mansfield, La., has been transferred to the Shreveport office also.

C. F. FLAKE, for two years agent-salesman for the Standard Oil Company of Louisiana in the marketing division, Shreveport, La., has been transferred to the division sales accounting office in New Orleans. He is succeeded by L. E. THOMAN, formerly general salesman for the company in New Iberia and adjacent territory.

RAYMOND EBBETS, of Kenilworth, N. J., son of the general superintendent of the International Petroleum Company in Talara, Peru, sailed from New York June 4 aboard the Grace liner Santa Barbara for Peru. Also aboard were DUNCAN N. FRASER and MISS A. FRASER, son and daughter of the International Petroleum Company's port surgeon in Talara.

C. D. AVERY, senior geologist in the mineral classification division, conservation branch, of the U. S. Geological Survey, Washington, D. C., was in Tulsa several days on official business. JOHN M. ALDEN, supervisor of oil and gas operations in the Mid-Continent division, is still confined to his home in Tulsa by illness.

BERTE R. HAIGH, geologist in charge of the field staff; TAYLOR COLE, subsurface geologist; MERLE WILLIAMS, laboratory assistant, and RUBY SNODGRASS, secretary, comprising the West Texas office force of the University of Texas Lands Geological Division, have been transferred from San Angelo to Midland. SURCE TAYLOR, an instructor in the department of geology in Austin, has been added to the Midland staff as an assistant geologist.

SIR JOHN CADMAN, almost as well known among oil industry leaders in this country as in his native England, was made a baron in King George's recent coronation honors. He has made occasional visits to the United States, forming many friendships. In November, 1932, at the bottom of the depression, he spoke before the American Petroleum Association in Houston, Tex. It is recalled that he said: "Let us not be tempted by better times to relax our efforts. Let us watch production with a judicial eye, continue to forecast demand, endeavor to balance the two and maintain the closest contact in international export."

JOHN E. CARR, land man for the Humble Oil & Refining Company, has been appointed division land man of the Corpus Christi, Tex., district.

CAMPBELL M. HUNTER, O.B.E., has left for London, England, after a trip to Alberta in which he inspected drilling operations of the Hunter Valley Oil Company.

DONALD E. FUELLHART, formerly an engineer with Brokaw, Dixon, Garver & McKee, has resigned to become conservation engineer in the Louisiana Department of Conservation. He will serve throughout Louisiana.

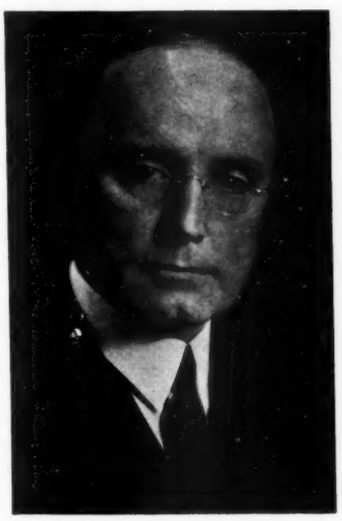
DAN MORAN, Houston, Tex., president of the Continental Oil Company, and W. H. FERGUS, Denver, Colo., vice president, were in the Lance Creek field, Wyoming, when the Ohio Oil Company's deep test resulted in a new discovery.

JOHN E. FARRELL, independent operator of Fort Worth, Tex., who discovered the Gregg County part of the East Texas field, has been named mayor of the newly established Westover Hills section of Fort Worth and J. M. LOFFLAND, drilling contractor, was named one of the two commissioners.

WILLIAM R. QUATTROCCHI, of New York, has been made general sales manager of the Warner-Quinlan Company. He is a member of the New York State Petroleum Industries Committee, a director of the Metropolitan Oil Burner and Air Conditioning Association, the American Petroleum Institute and Oil Burner Institute Committee. He was president of the Fuel Oil Association of New York for three terms and is now a director of that organization.

In Oil Business at 20

Robert H. Colley, the new president of the Atlantic Refining Company, entered the oil business at 20. His career, marked by steady advancement, has been primarily in the executive branch. Mr. Colley, born in Bridgeport, Conn., in 1886, attended high school in Providence, R. I., and the Bryant & Stratton Business College in the same city. In 1905 he entered the employ of Colley & Company, investment bankers, with offices in Providence and Boston. Colley & Company organized the Southwestern Oil Fields Company, which engaged in producing operations in the Mid-Continent region in 1906. Mr. Colley took an active part and became one of the company's directors.



ROBERT H. COLLEY

In the World War Mr. Colley served as an officer in the field artillery. From September 11 to 14 he participated in the Battle of St. Mihiel. Transferred with his regiment to the Argonne Forest October 1, he took part in the Meuse-Argonne offensive till the signing of the Armistice. Upon being mustered out of service in 1919 he entered the employ of the Atlantic Refining Company in the sales department. A year later he was assigned to represent Atlantic's management in the Superior Oil Corporation as treasurer. In September, 1926, he was recalled to assume the position of assistant treasurer of Atlantic. He was promoted to treasurer and a director of the company in 1929. Made a vice president in 1936, his election as president followed in May, 1937.

E. J. PRESTON, California oil operator whose recent headquarters were in Salt Lake City, has moved his office to Salem, Ore., where a wildcat will be started.

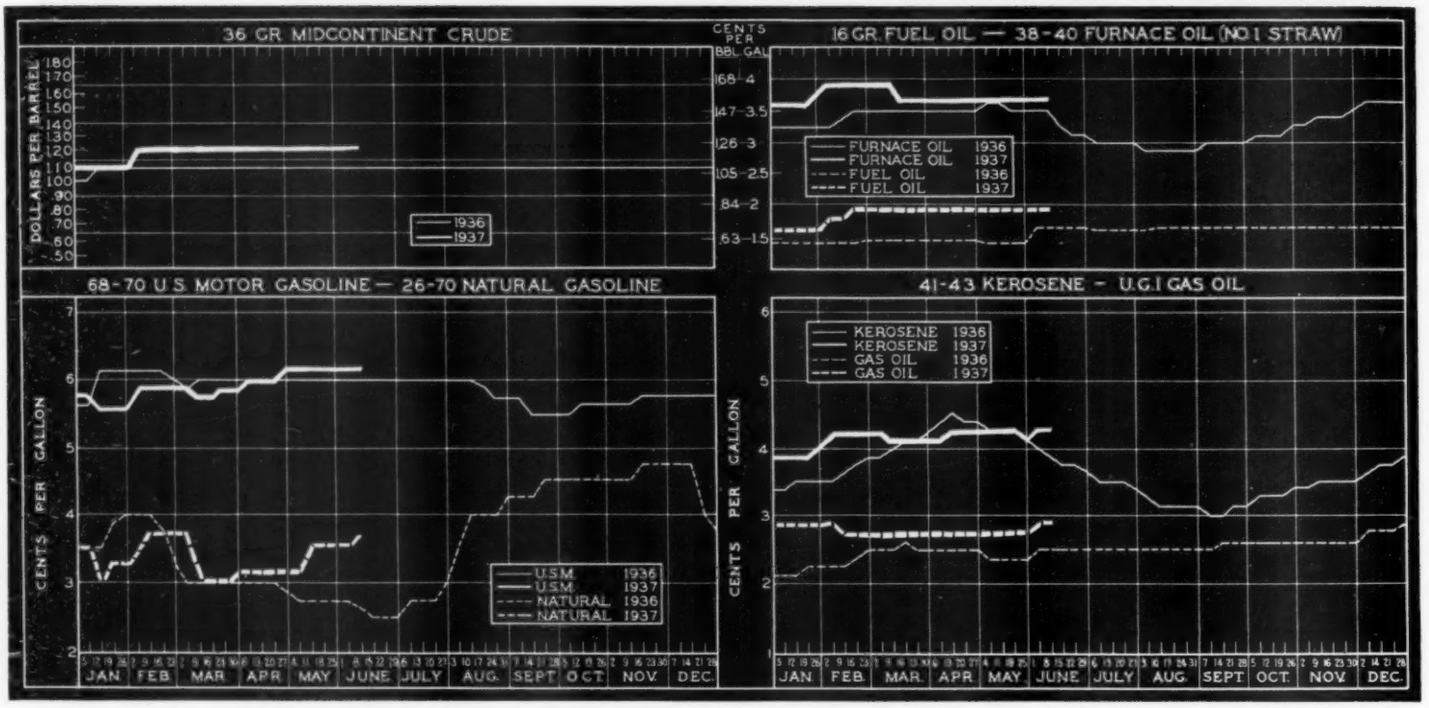
GLEN B. GARIEPY has been appointed chief geologist for the Ohio Oil Company in Los Angeles. THOMAS BOWLES will take over Mr. Gariepy's former duties as geologist in Bakersfield.

CLYDE P. CONOVER, superintendent of production for the Empire Oil Company in the Seminole field, Oklahoma, for the past seven years, has been transferred to Pampa, Tex., where he will be division superintendent in the Panhandle district.

BERNARD H. LASKY, geologist, is now located in the Sterling Building, Houston, Tex. Mr. Lasky, formerly a member of the consulting firm of Mowry Bates & Bernard H. Lasky, Tulsa, spent several years in mine examination and exploration in California and Mexico.

M. E. CHAPMAN, petroleum engineer, is now in charge of the Tulsa, Okla., office of the Chemical Process Company. CLAUDE THOMPSON, new engineering graduate of the Texas Technological School in Lubbock, Tex., has been added to the company's treating force in Breckenridge, Tex.

HARLAN H. PIGOTT, Pittsburgh, Pa., is the new general superintendent of production and transportation of the Equitable Gas Company, Pittsburgh & West Virginia Gas Company and Philadelphia Oil Company. He formerly was land agent for Equitable. He is succeeded in that position by J. M. SHIELDS, formerly field agent in the land department.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Gasoline Demand Jumps in Group 3 Area and Naturals Go Up a Notch

By T. F. SMILEY

If any refiner in the Group 3 area had gasoline to sell in the open market this week he didn't have to use a loud speaker. Buyers were so thick they were getting in the way. Brokers who had not been heard from for months were calling up possible sources of supply. Pleasant motoring weather was sending a steadily growing stream of cars onto highways. The trade was in a cheerful mood.

"There isn't going to be enough independent gasoline to go around," declared an executive of one of the large independent refining organizations, who himself was buying to replenish depleted stocks. This executive, who has been an accurate market forecaster, predicted gallonage records of 1937 would dwarf those of last year. Many jobbers who operate solely in the open market, never buying on contract, will be unable, he said, to fill all their needs among independent refiners, who already are getting close to tank bottoms. Thus much of the business of these spot-market jobbers, usually done with independents, will go to majors and second-line integrated companies.

Biggest May Business

One of the large independent Oklahoma refiners reported the gasoline business it did in May this year was the largest of any month in its history, and all of it was with jobbers. Its experience is regarded as significant of the kind of market that lies ahead. Observers pointed out that Memorial Day, which provided a triple holiday, got gasoline off to a lively start; that continued favorable weather in most regions helped to hold its pace; that the brisk demand which always accompanies Independence Day is now close at hand, and with the arrival of that exuberant holiday the touring season of 1937 will be in full swing.

Higher tankcar prices were talked of as probable. Retail and tank-wagon markets were still irregular. Some dealers in Oklahoma were reported to be getting tank-wagon deliveries at tankcar prices, and third-grade material was a subject of much price-cutting.

Confirming expectations of many in the trade, natural gasoline not only held its ground but extended its contraseasonal gains by annexing an eighth to previous prices. Apparently there no longer were dissenters from the opinion that the naturals had touched bottom for the season. Export and coastwise orders, which suddenly lifted them from their customary summer hiding-place in the cellar early in May, were credited with imparting the steady push that moved them to still higher levels. This unforeseen business has taken care of output which the demand ordinarily experienced at this season is unable to absorb. No Texas natural has been moving north for weeks, most of it being hurried to Gulf ports. Oklahoma manufacturers who have stocks are disposed to hang onto them, explaining that their fall commitments make that policy obligatory. Something resembling scarcity of 18-pound material was reported. Refiners said they had difficulty uncovering any under 4½ cents.

Kerosene Exceptionally Strong

Kerosene was exceptionally strong. One of the largest refiners was refusing to let any of the 41-43 grade go for less than 4⅜ cents. Some important refiners were trying to replenish their own supplies. Tractor fuels too were vigorous. Plowing operations in some areas, delayed by rains earlier in the spring, have been pushed to high speed, night crews being employed in some instances.

Furnace distillates seem to be showing as strong a tone as last week. Production is in relatively small volume at this season, and many jobbers are showing a disposition to buy for fall requirements earlier than usual. Bright stocks were firm, but the neutral market was somewhat dull. Wax was in active demand.

Refined Oil Market Barometer

Gasoline demand rising smartly, with tankcar prices firm, as summer touring season gets under way. Predictions of record-breaking season are made freely. Kerosene and tractor fuels gaining further strength. Heating oils continue steady with inquiries for fall supplies increasing. Natural gasoline holding its strength. Wax in active demand, with prices firm. Heavy oils steady.

MID-CONTINENT. Gasoline vigorous. Naturals up. Kerosene, tractor fuels and wax firmer.

EAST COAST. Gasoline consumption records broken. Fuel oils higher. Lubricating oils holding.

GULF COAST. Gasoline strong. Kerosene and fuel oils steady.

CALIFORNIA. Sulfur-free fuel firm, high sulfur content weak. Gasoline and diesel firm.

PENNSYLVANIA. Gasoline continues strong. Wax up. Lubricants holding.

CHICAGO. Gasoline steadier. Kerosene and tractor fuels active. Heavy fuels quiet.

Atlantic Coast Gasoline Consumption Breaks Records, and Prices Rise

By H. STANLEY NORMAN

NEW YORK, June 8.—Existing gasoline consumption records on the East Coast were smashed over the three-day holiday week-end May 29, 30 and 31, giving the petroleum industry a flying start for what is generally considered the "consuming season" running through June, July, August and September. Based on representative, but incomplete reports, the triple holiday week-end placed an all-time burden on traffic arteries throughout the northeastern section of the country. Record volume of automobiles passed over New York toll bridges and through tubes.

Weather conditions were ideal for motoring during all of the three holidays and motorists in New York and for a radius of 100 miles took full advantage of the summer's first real opportunity for outings.

Spirited on by late May and early June demand, oil companies generally advanced gasoline prices a half cent per gallon at refineries and terminals along the North Atlantic seaboard. Fundamentally, the advances were posted due to high tanker rates prevailing for movement from the Gulf Coast and because of the higher crude oil prices which have prevailed in all parts of the producing districts since January and more recently further extended in East Texas which supplies about 15 per cent of the current crude available east of the Rocky Mountains. Standard Oil Co. of New York, operating subsidiary of Socony-Vacuum Oil Co., Inc., instituted the gasoline advance of a half cent per gallon on all classes of delivery in New York June 3, and the advance was immediately met by most of the other large marketing concerns in this territory.

While seasonal interest is chiefly directed at gasoline consumption and supply, fuel oil continues to rank high. Standard Oil Co. of New Jersey instituted advances last week on several grades of fuel oil boosting diesel fuel to $2.20 per barrel in New York and Baltimore and to $2.25 per barrel at Boston, an advance of 10 cents at all three points. Tankcar quotations were advanced a quarter of a cent per gallon on Nos. 2 and 4 oils at Bayonne, Bayway and at New England points.

There remains some uncertainty about over-the-summer fuel oil contract prices to apply to next winter delivery, but indications are the domestic heating grades will sell for 7.5 to 8.5 cents per gallon, the cent spread applying to minimum and maximum at time of delivery. One of the leading independent fuel oil organizations in this section, Meenan Oil Co., has posted the following prices: No. 1 oil, 9 cents with a top of 10 cents per gallon; Nos. 2, 3 and 4 oils, which classification covers practically all of the domestic requirements, 7.5 cents with a top of 8.5 cents per gallon; No. 5 oil, 5 cents a gallon with a top of 5.6 cents; and No. 6 oil, 4.04 cents with a top of 4.64 cents per gallon. There is sufficient evidence at hand to make almost unassailable a prediction that domestic fuel oil prices will be from 1.5 to 2.5 cents per gallon higher next winter than for the same period just passed. When the issue of over-the-summer contract fuel oil prices is settled on a uniform basis, the interest in fuel oils is expected to lag to some extent for remainder of this season. However, the call for marine diesel, Bunker C fuel oil and industrial grades is continuing brisk and these products may be subject to further change before fall.

Bunker C Fuel

Currently, Bunker C fuel oil is quoted at $1.35 to $1.50 per barrel, with movement reported satisfactory by most suppliers. Tightness of the market on the Gulf Coast for coastwise movement continues unabated and it is difficult, if not impossible, to create interest with offers of less than 95 cents per barrel, f.o.b.

As is the case in gasoline quotations, the tanker rate applicable on cargoes moving north from the Gulf Coast is also a dominating factor in fuel oil prices. Although currently increases in tanker rates have about halted, the cost of transportation has leveled off at a considerably higher peak than applicable last season . The current cost of moving fuel oil from the Gulf Coast north is approximately a cent per gallon more than during the summer and early fall of 1936.

The continued rapid spread of fuel oil burner installations is causing oil companies much concern over adequate supplies for next winter. Arrangements for handling the demand must of necessity be based on the assumption that no less than a normal winter will be encountered. Oil companies are still congratulating themselves on the mildness of last winter which enabled them to meet customer demand. In some instances, demands could not have been met even with mild temperatures prevailing, but for open market purchases. Outside of northern New Jersey, where the half cent per gallon advance two weeks ago appears to be firmly established, there has been no change in retail gasoline prices in this territory. It probably will be only a matter of days, however, until the half-cent advance on tankcar and tank-wagon quotations generally adopted last week by the major marketers is reflected in quotations to consumers.

The Gulf Coast open cargo gasoline market is lacking of feature due largely to the fact that a big majority of movement is against contracts. However, refiners in that section are not showing much interest in the export market which may be considered an indirect indication that they are willing to remain aloof for higher prices from domestic consumers. Orders for material to replace heavy stock withdrawals over the Memorial Day week-end were reported brisk. Inability to charter boats in keeping with delivery requirements is causing East Coast marketers some concern. The supplies are at least adequate, but not necessarily at the points needed. Although Rumanian gasoline prices are reported from an eighth to a quarter of a cent below American Gulf Coast quotations, on a comparable basis, neither of the groups seem to be pushing for business.

Improved gasoline market conditions on the eastern seaboard were reflected on the inland Pennsylvania refining district where demand for immediate shipment and over June delivery was said to be brisk. Gasoline with antiknock rating of 65 was quoted by several Pennsylvania refiners at 7.5 cents, up a quarter of a cent from previous prices. Orders were reported approximately normal with the lower quotation. The U. S. Motor gasoline in western Pennsylvania was also advanced an eighth of a cent per gallon by most sellers.

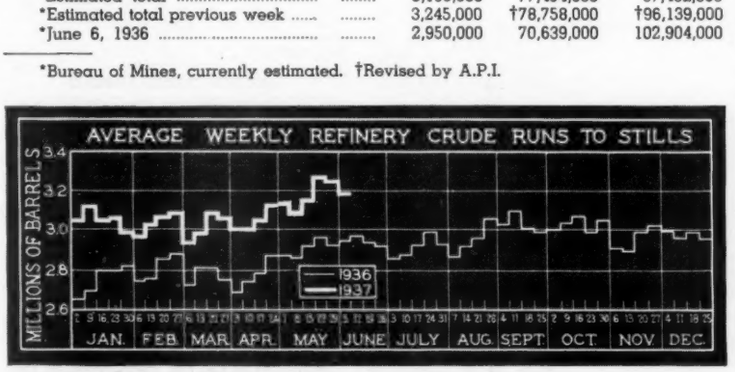
All grades of lubricating oils held their previous week's range of prices with movement in most materials reported satisfactory. Bright stocks are still somewhat weak. Neutrals oils are also offered in somewhat freer quantities, but prices are steady.

A. P. I. Weekly Refinery Statistics

Week Ending June 5, 1937

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	559,000	19,138,000	7,060,000
Appalachian	88.4	105,000	2,971,000	682,000
Indiana, Illinois, Kentucky	92.1	442,000	13,713,000	5,223,000
Oklahoma, Kansas, Missouri	84.6	282,000	8,838,000	3,133,000
Inland Texas	56.6	139,000	1,922,000	1,551,000
Texas Gulf	95.5	685,000	9,723,000	6,681,000
Louisiana Gulf	96.3	139,000	1,328,000	2,053,000
North Louisiana and Arkansas	63.7	40,000	454,000	378,000
Rocky Mountains	69.7	53,000	2,047,000	755,000
California	90.9	490,000	13,948,000	67,713,000
Total reported	88.8	2,934,000	74,082,000	95,229,000
Estimated unreported	.....	261,000	3,412,000	2,173,000
*Estimated total	.....	3,195,000	77,494,000	97,402,000
*Estimated total previous week	.....	3,245,000	†78,758,000	†96,139,000
*June 6, 1936	.....	2,950,000	70,639,000	102,904,000

*Bureau of Mines, currently estimated. †Revised by A.P.I.



Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending May 22, 1937	304,971,000 barrels
Week ending May 15, 1937	305,365,000 barrels
Week ending May 23, 1936	315,226,000 barrels

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of June 8, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag.
Chicago, Ill.	16 0	14 0	4 0	10 1
Decatur	16 0	14 5	4 0	10 1
Joliet	16 0	14 5	4 0	10 1
Peoria	16 0	14 5	4 0	10 1
Quincy	15 8	14 3	4 0	9 9
Davenport, Ia.	16 0	14 5	4 0	‡13 1
Des Moines	15 8	14 3	4 0	‡12 9
Mason City	16 2	14 7	4 0	‡13 3
Sioux City	16 0	14 5	4 0	‡13 1
Duluth, Minn.	17 8	16 3	5 0	10 9
Mankato	17 4	15 9	5 0	10 5
Twin Cities	17 4	15 9	5 0	10 5
Lacrosse, Wis.	17 4	15 9	5 0	10 5
Green Bay	17 7	16 2	5 0	8 6
Milwaukee	17 3	15 8	5 0	10 4
Detroit, Mich.	15 4	13 9	4 0	9 8
Grand Rapids	16 5	15 0	4 0	10 9
Saginaw	16 3	14 8	4 0	8 5
Evansville, Ind.	17 5	16 0	5 0	†10 6
Indianapolis	17 7	16 2	5 0	†9 6
South Bend	17 9	16 4	5 0	†9 6
Fargo, N. Dak.	17 4	15 9	4 0	11 5
Minot	18 6	17 1	4 0	12 7
Huron, S. Dak.	17 8	16 3	5 0	10 9
Kans. City, Mo.*	15 4	13 9	4 0	8 9
St. Louis*	15 7	14 2	4 0	9 8
St. Joseph*	15 4	11 4	4 0	6 9
Wichita, Kans.	14 9	13 4	4 0	8 9

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Iowa kerosene prices include 3-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off: minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
Atl'tic City, N. J.	13 0	11 5	4 0	8 0
Newark	13 0	11 5	4 0	8 0
Annapolis, Md.	15 1	13 6	5 0	10 0
Baltimore	14 5	13 0	5 0	8 5
Cumberland	16 9	14 4	5 0	10 0
Wash'g'n, D. C.*	12 5	11 0	3 0	9 0
Danville, Va.	17 7	15 2	6 0	12 9
Norfolk	16 5	14 0	6 0	11 5
Petersburg	16 8	14 3	6 0	11 7
Richmond	16 8	14 3	6 0	11 7
Roanoke	18 0	15 5	6 0	12 9
Charles'n, W. V.	16 3	13 8	6 0	12 6
Parkersburg	15 6	13 1	6 0	11 2
Wheeling	15 5	14 0	6 0	12 2
Charlotte, N. C.	18 9	16 4	7 0	13 6
Hickory	19 4	16 9	7 0	13 0
Mt. Airy	19 2	16 7	7 0	12 8
Raleigh	18 5	16 0	7 0	12 1
Salisbury	19 0	16 5	7 0	12 7
Charleston, S. C.	17 5	15 0	7 0	11 1
Columbia	18 5	16 0	7 0	12 1
Spartanburg	19 2	16 7	7 0	12 9

*Standard of N. J. has discontinued posting service-station prices at all above points except at Washington where a station price of 16 cents is in effect.

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Net dlr.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	21 0	18 0	7 0	*13 0
Augusta	19 5	16 5	7 0	*14 0
Macon	21 5	18 5	7 0	*14 5
Savannah	20 0	17 0	7 0	*12 0
Birm'ham, Ala.	21 0	18 0	8 0	12 0
Mobile	22 0	19 0	9 0	11 0
Montgomery	22 0	19 0	9 0	12 5
Jackson, Miss.	21 0	18 0	7 0	*13 0
Vicksburg	20 5	17 5	7 0	*13 0
Jacksonville, Fla.	20 5	17 5	8 0	11 0
Miami	20 5	17 5	8 0	†11 5
Pensacola	22 0	19 0	9 0	12 0
Tampa	21 5	18 5	8 0	11 0
Lexington, Ky.	20 0	17 0	6 0	11 0
Covington	19 5	16 5	6 0	11 0
Louisville	20 0	17 0	6 0	10 5
Paducah	20 0	17 0	6 0	10 0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1-cent state tax. †Subject to 2-cent discount.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, and Tampa, Fla., have a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo.	17 5	5 0	11 5
Grand Junction	20 0	5 0	15 0
Pueblo	16 0	5 0	10 5
Casper, Wyo.	18 0	5 0	11 5
Cheyenne	18 0	5 0	13 0
Butte, Mont.	19 5	6 0	15 5
Billings	21 5	6 0	15 5
Helena	21 5	6 0	15 5
Great Falls	21 5	6 0	15 5
Salt Lake, Utah	19 5	5 0	16 0
Twin Falls, Ida.	21 5	6 0	18 0
Boise	21 5	6 0	18 0
Albuquerque, N. M.	17 5	6 5	12 0

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag. con'r.	Gasoline Di-vided dlr.	Gasoline Inc. tax	Kero. tank-wag.
Ohio points	17 5	16 5	5 0	*13 5

*Includes state tax of 1 cent.

Divided dealer price is also price to authorized agents, exclusive of .5 cent rental. Tank-wagon price is price to commercial consumers in deliveries of 25 gallons or more; less than 25 gallons get service-station price.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	17 5	18 5	4 0	11 5
Los Angeles	17 0	18 0	4 0	9 0
Fresno, Calif.	18 5	19 5	4 0	12 0
Phoenix, Ariz.	21 0	22 0	6 0	‡16 0
Reno, Nev.	20 0	21 0	5 0	13 0
Portland, Ore.	20 0	21 0	6 0	13 5
Seattle, Wash.	20 0	21 0	6 0	13 5
Spokane	23 0	24 0	6 0	16 5
Tacoma	20 0	21 0	6 0	13 5

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
Albany, N. Y.	15 0	13 5	5 0	8 25
*Met. N. Y.:				
Manh't'n, Br'nx	14 5	13 0	5 0	7 75
Staten Island	14 75	13 0	5 0	7 75
Q'ns & Brklyn	14 5	13 0	5 0	7 75
Buffalo	15 3	13 67	5 0	8 00
Rochester	15 3	13 74	5 0	8 25
Syracuse	15 3	13 7	5 0	9 00
Boston, Mass.	14 0	12 5	4 0	7 50
Portland, Me.	15 8	13 5	5 0	8 50
Manch'ter, N. H.	16 3	14 0	5 0	8 50
Burlington, Vt.	15 9	13 9	5 0	8 75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point: Monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Gasoline Inc. tax	Kero. tank wag.
Omaha	18 4	16 9	6 0	10 4
McCook	18 0	17 6	6 0	10 0
Norfolk	18 8	17 3	6 0	10 8
North Platte	19 2	17 7	6 0	11 2
Scotts Bluff	19 9	18 4	6 0	10 9

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Inc. tax	Kero. tank wag.
Muskogee, Ok.	15 0	5 0	7 0
Oklahoma City	15 0	5 0	8 0
Tulsa	14 0	5 0	7 0
Ft. Smith, Ark.	15 0	5 0	10 0
Little Rock	17 5	7 5	9 8
Texarkana	15 0	5 0	9 0

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero tank wag.
Dallas, Tex.	14 0	18 0	5 0	8
Fort Worth	13 5	17 0	5 0	8 0
Houston	14 5	18 5	5 0	8
San Antonio	14 5	18 5	5 0	8 0

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
N. Orleans, La.	20 0	17 5*	10 0	†14 0
Baton Rouge	18 0	15 5	8 0	12 0
Alexandria	18 5	16 0	8 0	12 0
Lafayette	19 0	16 5	8 0	12 5
Lake Charles	19 0	16 5	8 0	12 5
Shreveport	17 5	15 0	8 0	9 5
Knoxville, Tenn.	21 0	18 5	8 0	14 0
Memphis	19 0	16 5	8 0	12 0
Chattanooga	20 5	18 0	8 0	13 5
Nashville	20 0	17 5	8 0	11 0
Bristol	19 75	18 5	8 0	14 5

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where station prices are 23.5 and 21.5 cents per gallon, respectively.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Louisiana kerosene prices include 1-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Tank car con'r.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	14.0	12.5	5.0	10.5
Pittsburgh	15.5	13.5	5 0	11 0
Allentown	14.5	13.25	5.0	11 0
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.25	5.0	11 0
Altoona	15.5	13.5	5.0	11 0
Dover, Del.	14.5	....	5.0	11.0
Wilmington	13 5	....	5.0	11.0
Springf'ld, Mass.	14.8	....	4.0	7.5
Worcester	14 3	....	4.0	8.0
Hartford, Conn..	14.6	....	4.0	7.0
New Haven	14.0	....	4.0	7.0
Providence, R. I.	13.0	....	3.0	7.75

Atlantic has transferred all stations to dealers except in Philadelphia and Pittsburgh where prices are 17.5 and 20.0 cents per gallon respectively.

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tank-car price; over 100,000 gallons per year, .5 cent above posted tankcar price.

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16 0
Cleaners' naphtha	15 0
Stanisol	15 0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Hamilton, Ont.	22 0		6 0	17 0
Toronto, Ont.	22 0	24 5	6 0	17 0
Brandon, Man.	29 8	32 8	7 0	22 8
Winnipeg, Man.	28 2	31 2	7 0	20 7
Regina, Sask.	29 5	....	7 0	22 0
Saskatoon, Sask.	32 3	....	7 0	24 7
Edmonton, Alta.	30 5	....	7 0	24 2
Calgary, Alta.	28 0	....	7 0	21 5
Vancouver, B. C.	23 0	27 0	7 0	23 0
Montreal, Que.	19 0	....	6 0	..
St. John, N. B.	24 0	28 0	8 0	18 8
Halifax, N. S.	24 0	28 0	8 0	18 8

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Imperial Oil, Ltd., June 1 advanced tank-wagon and station gasoline 1 cent in Vancouver.

Crude Oil Price Changes

The South-Penn Oil Co., Tide Water Pipe Line Co. and other buyers advanced the prices of Pennsylvania grade oil 15 cents per barrel, effective June 7.

Ontario Operations

In the Dawn field, Lambton County, Union Gas Co. No. 91, E half Lot 11, Concession 8, Dawn Township, finished a dry hole at 1,880 feet.

In the Eden field, Elgin County, Eden Gas Co. No. 6, Lot 24, Concession 8, Bayham Township, finished in the Clinton sand, 1,350 feet, with 80,000 feet.

In the Brownsville field, Aloka Oil & Gas Co. No. 11 is drilling in Lot 25, Concession 11, Dereham Township, northwest of the field. Aloka No. 12 is drilling in Lot 23, Concession 12. East and north of the field, Smith & Jackson No. 1 has started in Lot 19, Concession 10. In Malahide Township, Elgin County, E. Wayne Spaulding and associates are drilling in Lot 4, Concession 8.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of June 8, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below (3d gr.)	.05⅛	.05⅜
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
60-62 400 grades:		
62 oct. and below (3d gr.)	.05⅛	.05⅜
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
64-66 375	.05⅛	.05⅜
68-70 360	.05¼	.05½

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.05⅛	.05⅜
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06⅜
60-62 400	.05⅛	.05¼
64-66 375	.05⅛	.05¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below		.05⅝
63-67 octane		.06
68-70 octane (regular)		.06½
62 octane and below		.05½

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below		.05½
63-67 octane	.06⅛	.06¼
68-70 octane (regular)		.06½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.05⅛	.05¼
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
60-62 400 grades:		
62 octane and below	.05⅛	.05¼
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06⅛	.06¼
64-66 375	.05⅛	.05¼
68-70 360	.05¼	.05⅜

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05¾
60-64.9 octane	.07	.07¼
65-70 octane	.07¼	.07½
64-66 375		.05¾
68-70 350		.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07½	.08½
58-60 400, 65 oct. and higher	.08¼	.09¼

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06¾
Baltimore		.06¾
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)	.07	.07¼
Philadelphia	.07	.07¼
Boston		.07¼
Baltimore	.07	.07¼
Charleston, S. C.		.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)	.07½	.08
Philadelphia	.07¾	.07¾
Boston	.07½	.08
Baltimore		.07½
Charleston, S. C.		.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.06	.06⅛
60-64.9		.06¼
65 octane and higher		.06½

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅝
52-54 450 (blending)	.05⅝
54-56 450 (blending)	.05¾

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03⅝
Grade 18-55	.04⅜	.04½

NORTH TEXAS—

Grade 26-70		.03⅝
Grade 18-55	.04⅜	.04½

CALIFORNIA—

75-85 375-390	.06¾	.07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03⅞	.04

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04¼	.04⅜
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04½
46-48 gr., 210-230 i.b.p., 480 max. e.p.	.04⅞	.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04¼	.04⅜
42-44	.04⅜	.04½

NORTH TEXAS—

41-43		.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04½	.04⅝

ARKANSAS (Ark., N. La., Miss. del.)—

41-43		.04¾

PENNSYLVANIA (inland refineries)—

45		.04¾
46		.04⅞
47		.05

CHICAGO (Based on Group 3)—

41-43	.04¼	.04⅜
42-44	.04⅜	.04½

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04	.05

NEW YORK (Bayonne, N. J.)—

41-43	.05½	.05¾

***GULF COAST (domestic)—**

41-43	.04¾	.05

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03⅜	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅝	.02¾

NORTH TEXAS—

No. 1 prime white, 38-42		.04
No. 1 straw, 38-40	.03⅝	.03⅞

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅜	.03½

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03⅝	.03¾

CHICAGO (based on Group 3)—

No. 1 prime white, 38-40	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03⅝
No. 2 dark, 32-36	.03⅜	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1		.05¾
*No. 2	.05⅝	.05⅝
*No. 4	.05⅛	.05⅜

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03⅛
No. 4, low cold test, 24-28	1.07½	1.12½
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.87½	.90
Below 18 fuel oil, industrial	.80	.87½

NORTH TEXAS—

U.G.I. gas oil	.02¾	.03⅛
No. 4, low cold test, 24-28	1.07½	1.12½
No. 5, low cold test, 18-22	.87½	.90
Below 18 fuel oil, industrial	.80	.85

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

10-14 fuel oil, industrial	.80	.85

ARKANSAS (Ark., N. La., and Miss. delivery)—

10-14 fuel oil, industrial	.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.07½	1.12½
No. 4, 15 and above, 24-28	.90	.95
No. 5, low cold test, 18-22	.87½	.90
No. 6, low cold test, 10-16	.80	.85

PENNSYLVANIA (inland refineries)—

36-40	.04⅜	.04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.15	1.35
24 plus diesel, per bbl.	1.17	1.35
24 plus diesel (bunkers)	1.50	1.65
12-16 (bunkers at tidewater)	1.05	1.20
10-16 (cargo lots)	.95	1.10
12-17 (tankcars)	1.00	1.15
10-17 (high sulfur)	.60	.90
San Joaquin Valley:		
10-18 (tankcars)	.80	1.00
24 plus diesel, per bbl.	1.45	1.65
San Francisco:		
27 plus diesel		1.65
24 plus diesel (bunkers)		1.70
10-16 (bunkers)		1.15

GULF COAST—

28-30 gas oil	.03⅞	.04⅛
28-30 diesel (bunkers)	1.65	1.90
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		1.05

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¾
28-30 diesel (lighterage 6¼-per bbl.)		2.20
28-30 diesel (tankcars)		.05
Bunker C (to ocean-going ships in N. Y. harbor)	1.35	1.50
Industrial fuel (tankcars)		.04½

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.23
150-160 D, 0-10		.20
150-160 D, 15-25		.19½
150-160 E, 15-25		.19
100-110 D, 0-10		.18
Steam refined:		
631 green (treated)		.17½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 145-50 at 210, 540-550 flash):		
10 pour test	.28	.28½
15 pour test	.27	.27½
20 pour test	.26	.26½
25 pour test	.25	.25¼
Steam refined:		
600		.17
650		.19
600 Pennsylvania flash		.20
630 flash		.23½
600 Warren E filtered		.19½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:	
150-3	.09
180-3	.10
180-4	.09½
200-3	.10½
200-4	.10
250-3	.11½
250-4	.11
280-3	.12½
280-4	.12
300-3½	.13
400-3½	.14
100-2½ paraffin oil	.05¾
15-20 Cold Test:	
200-3	.10
200-4	.09½
250-3	.11
250-4	.10½
280-3	.12
280-4	.11½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08¼	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09¼	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.07	.08
200-2½-3	.07	.08
300-2½-3	.07	.08
400-3-4	.09	.11
540-3-4	.09	.11
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07	.08
300-5-6	.07	.08
350-5-6	.10½	.11½
400-5-6	.10½	.11½
450-5-6	.10½	.11½
500-5-6	.10½	.11½
600-5-6½	.10½	.11½
700-6½ plus	.10½	.11½
750-6½ plus	.10½	.11½
900-6½ plus	.10½	.11½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.25½	.26
10 pour test	.24½	.25
15 pour test	.24	.24½
25 pour test	.23	.23½
180 vis. at 70° F., 3 color:		
25 pour test	.26	.26½
200 vis. at 70° F., 3 color:		
Zero pour test	.30	.30½
10 pour test	.29	.29½
15 pour test	.28½	.29
25 pour test	.27½	.28

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅞	.03

PENNSYLVANIA (inland refinery)—

122-124 (a.m.p.) w.c. scale	.0285	.0290
124-126 (a.m.p.) w.c. scale	.0290	.0295

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0250	.0255
124-126 (a.m.p.) y.s.	.0260	.0265
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05⅞	.06
60-62 400	.05⅝	.05¾
61-63 390	.05⅞	.06
64-66 375	.06⅛	.06½

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white	.04½	.05
41-43 water white	.04½	.05
44 water white	.04¾	.05

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.26½	.27
600 S.R. unfiltered	.24	.24½
630 S.R. unfiltered	.25½	.26
600 flash, S.R.	.26½	.27
630 flash, S.R.	.31½	.32
Bright Stocks:		
8 color	.32	.32½
6½ plus color in dilution	.31½	.32

NEUTRAL OIL

200-3 color	.34	.34½
150-3 color	.29½	.30

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.	.04125
125-127 a.m.p.	.0425
128-130 a.m.p.	.0450
133-135 a.m.p.	.0525
135-137 a.m.p.	.0550
Crude scale:	
124-126 w.s.	.0260 .0270
124-126 y.s.	.0245 .0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

East Texas (May 22, 1937)*	$1 35
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

West Texas

See gravity table.	
Pecos County*	.91
Pecos shallow†	.81

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Gulf Coast

(January 28, 1937)

Choctaw and Darrow, La.	See note below
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Tomball, Tex.	1.30
Lafitte, La.	1.24
Livingston, Tex.	1.27
Satsuma	1.20
Heyser, light (Nov. 1, 1936)	1.15
Heyser, heavy (Nov. 1, 1936)	.90
Placedo (Nov. 1, 1936)	.90
Welsh, La.	.98
Tepetate (La.) (Jan. 4, 1937)	1.12

Greta, Refugio, O'Connor, McFadden, Saxet, Segno, Taft, Tomoconnor and Plymouth take same gravity prices as Gulf Coast, Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light.*†	1.30
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.57
Elk Basin, Wyo., light*†	1.23
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light	.82
Hogback, N. Mex.*	1.33
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.23
Rock Creek, Wyo.†	1.20¼
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. Mex.	.90
Maljamar, N. Mex.	.90
Canon City and Florence, Colo.	1.10
Florence, Colo.	.98
Lance Creek, Wyo.	.97
Sunburst, Mont. (June 5, 1936)	1.20
Cat Creek, Mont.	1.40
Cut Bank, Mont.	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich.	1.42
West Branch, Mich.	1.26
Buckeye (March 16, 1937)	1.39½
Arenac, Mich.	1.26
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River	1.42
Kentucky River	1.50
Western Kentucky	1.40

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp., effective January 29. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

Southwest Texas

(January 28, 1937)

Pettus	1.37
Salt Flat, Darst Creek, Hilbig, Carroll Clark, Zoboroski	1.39
Luling	1.00
Lytton Springs	1.12

Saxet and Taft take same gravity table as Gulf Coast.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90

Eastern States

TIDE WATER PIPE LINE CO.
(Effective June 7, 1937)

Bradford, Pa.	$2 82
Allegany, N. Y.	2 82

SOUTH PENN OIL CO.
(Effective June 7, 1937)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2 82
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2 57
Pennsylvania Grade Oil in Eureka Pipe Line lines	2 52
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2 37
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Jan. 29, 1937)	1 42

PENNZOIL CO.
(Effective June 7, 1937)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	2 82
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2 81
Includes Tidioute district.	
Group C	2 80
Includes Turkey and Tidioute districts.	
Group D	2 79
Includes Bear Creek and Porkey districts.	
Group E	2 76
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective June 7, 1937)

Cabin Creek, W. Va.	2 52
Bradford Hollow, W. Va.	2 52
Kelly Creek, W. Va.	2 52

Canada

Ontario (Sept. 9, 1933)*	
Petrolia	$2.10
Oil Springs	2.17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$2.60
Discolored naphtha, 65 gravity and higher	2.36
Discolored naphtha and crude oil, 40-40.9 gravity	1.86
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2.27

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$1.24

*In U. S. currency, f.o.b. ship, based on April spot market transactions.

Crude Prices by Gravities

	1 Oklahoma-Kansas	2 Oklahoma-Kansas	3 North and Central Texas	4 East Central Texas (Mexia district)	5 North Louisiana-Arkansas	6 Gray County, Texas	7 Hutchinson-Carson counties, Texas	8 Rodessa, Louisiana-Texas and Panola County, Texas	9 Conroe, Tomball, Raccoon Bend, Satsuma, Texas	10 Gulf Coast	11 Gulf Coast	12 West Texas except Pecos County, Lea County, N. Mex.	13 Mirando district, Texas	14 Marion County, Texas	15 Government Wells, Texas	16 Anahuac, Texas	17 White Castle, Louisiana	18 Iowa, Louisiana	19 Cayuga, Texas
Bel. 18	....	....	....	....	....	....	....	....	....	$.90	....	....	....	....	....	....	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	.92	....	....	....	....	....	....	....	....	....
19-19.9	....	....	....	....	....	....	....	....	....	.94	....	....	....	....	....	$.92	$.94	$.84	....
20-20.9	....	....	....	....	....	....	....	....	....	.96	$.95	....	$.90	....	$.90	.94	.96	.86	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.93	....	.93	.96	.98	.88	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	.96	....	.96	.98	1.01	.91	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	.99	....	.99	1.00	1.04	.94	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.02	....	1.02	1.02	1.07	.97	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.05	.92	....	1.04	1.10	.99	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	....	1.06	1.13	1.03	.92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	....	1.08	1.15	1.05	.94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	....	1.10	1.17	1.07	.96
Bel. 29	$1.06	....	$.96	$1.03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	....	1.12	1.19	1.09	.98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	....	1.14	1.21	1.11	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	....	1.16	1.23	1.13	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	....	1.18	1.25	1.15	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	....	1.20	1.27	1.17	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	....	1.22	1.29	1.19	1.08
Bel. 35	....	....	....	....	....	$.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1.12	....	1.24	....	1.10	....
36-36.9	1.22	1.22	1.12	1.19	1.13	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	....	1.26	....	....	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	....	1.28	....	....	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	....	1.30	....	....	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	....	1.32	....	....	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	....	1.34	....	....	....

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Crude Oil Purchasing Co.
Columns, 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—Humble Oil & Refining Co.
Column 14—Magnolia Petroleum Co.
Column 15—Sun Oil Co.
Column 16—Gulf Refining Co.
Columns 17 and 18—Shell Petroleum Corp
Column 19—Tide Water Oil Co.

Rocky Mountain Runs

Average daily production in the week ending June 7 was as follows:

	Bbls.
WYOMING	
Salt Creek	16,260
Big Muddy	1,330
Badger Basin	200
Black Mountain	50
Byron	140
Dallas Derby	550
Dutton Creek	50
Elk Basin	530
Frannie	80
Garland	150
Grass Creek	3,430
Hamilton dome	560
Hidden dome	470
Hudson	320
LaBarge	1,000
Lance Creek	13,210
Lost Soldier	1,140
Medicine Bow	2,800
Midway	20
Oregon Basin	2,770
Osage	750
Pilot Butte	20
Quealy dome	590
Rex Lake	10
Rock River	1,270
Poison Spider	250
Teapot	20
Wertz	450
Waugh dome	290
Total Wyoming	48,710
MONTANA	
Buckley Border	240
Cat Creek	630
Cut Bank	8,670
Dry Creek	30
Kevin-Sunburst	4,500
Lake Basin	30
Pondera	1,130
Total Montana	15,230
COLORADO	
Florence	130
Fort Collins and Wellington	240
Iles dome	2,530
Moffat	410
Orchard	30
Rangely	80
Tow Creek	150
Total Colorado	3,570
NEW MEXICO	
Cooper	6,740
Eaves	1,100
Eunice	32,180
Hardy	1,130
Hobbs	21,550
Jal	1,190
Langlie	1,650
Lynch	860
Lynn	860
Mattix	1,350
Monument	33,300
North Lynch	60
Penrose	2,460
Rhoades	50
Skelly	1,180
South Eunice	1,450
Vacuum	10
Artesia-Maljamar	6,810
Getty	200
Hogback	200
Rattlesnake	660
Table Mesa	70
Total New Mexico	115,060
Total Rocky Mountain region	182,570

Elfred Beck, geologist, has moved his headquarters from Tulsa to Dallas, Tex.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ended June 5 Sales	Week ended June 5 High	Week ended June 5 Low	Week ended June 5 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
114⅞	90	1,200	95	93	93½	Amerada Corp.	788,675	N.P.	50cQ	1-30-37	$2.00	125½	75	80	48½
37	28	5,300	30	29	29½	Atlantic Refining	2,664,000	$25	25cQ	6-15-37	1.25	35⅛	26⅝	28	20⅛
43⅜	29⅝	2,700	31⅝	29¾	31⅝	Barber Co.	387,149	$10	25c.	6-1-37	.50	38½	21	22½	11⅝
35¼	24¼	6,200	27¼	26¼	27¼	Barnsdall Oil Co.	2,247,974	$5	25cQ	5-1-37	.80	28¼	14⅛	14¾	5⅞
20⅞	11⅛	15,000	12¼	11⅜	11⅞	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	23⅜	14	15¾	3⅜
17⅞	14½	19,200	15¾	15⅛	15¾	Consolidated Oil Corp.	13,919,417	N.P.	20cQ	5-15-37	.80	17¼	11½	12¼	6½
47⅜	39¾	9,900	44½	42	44½	Continental Oil of Delaware	4,682,615	$5	50cQ†	6-30-37	1.50	44⅞	28⅛	35	15⅛
17⅝	12½	8,400	15¾	14¾	15¾	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	13⅞	6⅜	7	1½
35⅜	27½	2,100	28¾	27½	28¾	Mid-Continent Petroleum	1,855,912	$10	50cSA	6-15-37	1.15	30⅞	17¼	20½	9½
34	25¼	500	26½	26½	26½	Mission Corporation	1,399,345	N.P.	....	.....	.45	29⅞	16⅜	17¾	10⅜
109⅞	62	1,000	103	100¾	102	National Supply of Delaware	382,591	$25	....	5-15-31	....	75½	19⅞	20⅞	9
22⅞	17⅛	9,700	20	18½	19¾	Ohio Oil Co.	6,563,377	N.P.	50cSA	6-15-37	.60	18	12⅛	14¼	9¼
29¾	20¾	100	23¼	23¼	23¼	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	23½	11¾	14	6⅜
4½	2¾	No sales	..	..	..	Panhandle P. & R.	198,770	N.P.	....	.....	....	4¼	1⅜	1⅞	½
59¼	49½	6,900	57⅛	54⅜	56⅜	Phillips Petroleum	4,449,052	N.P.	75cQ†	6-1-37	2.50	52⅜	38⅛	40	13⅜
29⅞	24¼	2,500	27	26	26⅞	Plymouth Oil Co.	1,050,000	$5	35cQ†	3-31-37	.90	27¾	11⅞	13	6½
24⅜	17¼	48,600	18¼	17⅜	17⅞	Pure Oil Co.	3,281,120	N.P.	....	9-1-30	....	24⅞	16	17	5⅞
54⅛	36⅝	2,300	41¾	39⅞	41⅜	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	6-15-37	1.00	44	30½	36⅞	20⅜
34⅜	25⅝	4,000	29⅝	28	29⅜	Shell Union Oil	13,070,625	N.P.	25c	12-15-36	.25	28¼	14⅜	16½	5½
105⅜	102	900	105	104½	104⅞	Shell Union Oil 5½% pfd.	343,500	$100	26⅛c	12-15-36	28.87½	127½	102	111	63⅛
4¼	3½	No sales	..	..	..	Simms Petroleum	461,698	$10	50c liq.	1-9-37	2.25 liq.	6¾	3½	18¾	4⅜
60⅝	42	1,300	56	54	56	Skelly Oil	1,006,348	$15	50c	7-1-37	....	47⅜	19½	20½	6½
20¼	16¼	53,400	19½	18¼	19½	Socony-Vacuum	31,151,071	$15	25cSA	3-15-37	.70	17½	12½	15¾	10⅜
50	40⅝	9,100	43¾	42¼	43¼	Standard Oil of California	13,014,754	N.P.	45cQ†	6-15-37	1.20	47⅝	35	41⅛	27¾
50	42	7,200	44¼	43⅜	43¾	Standard Oil (Indiana)	15,196,241	$25	40cQ†	6-15-37	2.40	48½	32¾	33⅜	23
33⅜	30⅝	No sales	..	..	..	Standard Oil of Kansas	134,841	$10	$1	12-26-36	1.00	31	25	32	20
76	63⅛	9,900	67⅛	65⅝	66⅝	Standard Oil of New Jersey	25,856,081	$25	$1.25SA†	6-15-37	2.00	70⅜	51⅛	52⅜	35¾
77½	65	200	65½	65⅛	65½	Sun Oil	2,156,825	N.P.	25cQ	6-15-37	$1 & 6% Sk.	91	70	77	60½
65⅛	50⅝	21,300	60¼	58	60⅛	Texas Corp.	10,896,858	$25	50cQ	7-1-37	1.50	55¼	28⅞	30¼	16½
9⅝	6¾	4,000	7⅜	7	7⅜	Texas Gulf Producing Co.	888,123	N.P.	5c	12-15-36	.05	8⅞	4⅝	4¾	2½
16⅝	11¾	8,800	15⅛	14⅜	14¾	Texas Pacific Coal & Oil	888,237	$10	10c	6-1-37	.25	15¼	7½	9¼	3¼
21⅝	16⅝	6,200	17½	16¾	17	Tide Water Associated	6,288,512	N.P.	20cQ	6-1-37	.70	21¾	14¾	15⅞	7⅝
28¼	23¼	4,600	24⅛	23¼	24	Union Oil of California	4,386,070	$25	30cQ	5-10-37	1.00	28½	20¾	24	14⅝
31½	26½	800	28	26⅝	27	Union Tank Car Co.	1,200,000	N.P.	40cQ	6-1-37	1.20	31⅝	22⅝	26½	20⅞
6¼	4¼	4,400	5¾	5¼	5	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	5¼	2¾	3⅛	1

*Ex-dividend. †Includes extras.

New York Curb Exchange

1937 High	1937 Low	Week ended June 5 Sales	Week ended June 5 High	Week ended June 5 Low	Week ended June 5 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21⅜	16	800	17¾	17⅛	17½	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	21	13¼	14⅛	3⅝
51½	46	250	49	47½	49	Buckeye Pipe Line Co.	200,000	$50	$1Q	6-15-37	3.25	50	39¾	42⅟	⋯½
2¾	1¾	2,500	1⅞	1¾	1¾	Carib Syndicate	799,020	25c	....	.....	....	4⅞	1⅞	ₓ⁄₁₆	1⅝
123	110¼	150	117½	116¾	116¾	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-28-37	7.00	124¾	105	157	115
5⅜	3	28,900	3⅛	3	3⅛	Cities Service	37,804,394	N.P.	....	6-1-32	....	7⅜	3	3¼	⅝
4⅝	1¼	2,600	1⅝	1½	1½	Cosden Oil	399,687	$1	....	.....	....	4½	1½	1½	¼
38	28½	2,500	34¼	33½	33½	Creole Petroleum	6,974,356	$5	50cSA†	6-10-37	.50	39	19⅞	23¾	10
18⅝	11¾	1,900	12½	11¾	12¼	Darby Petroleum	351,390	$5	25cSA	7-15-37	.50	18⅛	9	8⅞	4
8¼	5¼	1,700	6⅞	6½	6½	Derby Oil & Refining	263,162	N.P.	....	.....	....	6¾	1⅞	2	⅝
47½	36½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	5-1-37	4.00	47½	38½	38	33¼
63½	51⅝	7,000	55¼	53⅛	54	Gulf Oil Corp.	9,076,202	$25	25cQ	4-1-37	1.50, 100% Stk.	59	36	74⅝	50¼
87	75	1,500	78½	76⅞	78½	Humble Oil & Refining	8,923,935	N.P.	37½cQ	7-1-37	1.50	80	57	64	44
24¼	20⅛	1,900	21⅛	20½	21	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-37	1.25	24½	19¾	22½	15⅝
15	7¾	300	11⅛	11	11⅛	Indiana Pipe Line	300,000	$10	30cSA	5-15-37	.80	9¾	5½	6⅛	3⅝
39½	33¾	3,200	35⅝	34¼	35⅜	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-37	2.50	39⅝	32⅝	39¾	28
15¼	11⅜	12,800	12⅜	11⅝	12¼	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-15-37	.50	15⅜	9⅞	11⅜	4⅝
26¾	16⅛	12,800	28	25½	27¾	Lion Oil Refining	270,000	N.P.	25cQ	12-26-36	.75	17¾	7⅜	8⅛	3½
14¼	10⅜	2,600	11	10¾	10¾	Lone Star Gas	5,382,723	N.P.	20c	4-20-37	.60	14¼	9⅞	10⅞	4½
14⅝	9¾	1,400	10⅛	9¾	9¾	Midwest Oil Co.	998,444	$10	50c	6-15-37	....	..	..	..	..
7⅞	6	1,200	6¼	6⅛	6¼	Mountain Producers	1,682,182	$10	30cSA	6-15-37	.60	8⅜	5	5¾	4⅛
19½	15¼	700	15⅝	15	15⅝	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-37	1.00	23	17⅜	20	11¾
12½	10	No sales	..	..	..	National Transit	509,000	$12.50	45cSA	6-15-37	.75	15¾	9¼	10⅝	6¾
6⅛	4¾	No sales	..	..	..	New Bradford Oil	1,445,202	$5	15cSA	4-15-37	.10	4⅝	2⅞	3¼	2
5	2⅝	200	2¾	2⅝	2⅝	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	6⅝	1⅝	2½	1
5⅜	4½	100	4½	4½	4½	New York Transit	100,000	$5	15cSA	10-15-36	.35	6¼	4¼	4⅞	3
12¾	7½	No sales	..	..	..	Northern Pipe Line	120,000	$10	40c	6-1-37	.40	9¾	4⅞	8	5¼
9⅝	5½	16,900	8⅜	7⅞	8⅛	Pantepec Oil	1,608,700	N.P.	....	.....	..	10⅛	3¼	4⅜	1¼
13¾	5	2,700	6	5	5¾	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	19¼	4½	5	1½
6½	4	1,600	5⅞	5⅛	5⅞	Ryan Consolidated	296,931	N.P.	....	..	.	4¾	1⅞	2½	⅝
48	42	500	44⅛	43¼	43¼	South Penn Oil	1,000,000	$25	75cQ†	6-30-37	2.60	44	32½	34½	21⅝
7¼	5	No sales	..	..	..	Southern Pipe Line	100,000	$10	20cSA	3-1-37	.25	7⅞	3¼	5	3⅞
42	30	No sales	..	..	..	South West Penna. Pipe Lines	35,000	$50	50cQ	4-1-37	13.00	60	44	56	44¼
20¾	19	1,400	19⅝	19⅜	19⅝	Standard Oil of Kentucky	2,604,790	$10	40cQ†	6-15-37	1.35	23⅜	17⅛	24	18
13¾	11	No sales	..	..	..	Standard Oil of Nebraska	188,403	$25	25c	3-29-37	.25	14⅝	11	12	7¾
45	33¼	800	37½	36	37½	Standard Oil of Ohio	753,740	$25	25cQ	3-15-37	2.00	40	21¾	23⅝	11½
4⅞	3¾	4,300	4¼	4	4	Sunray Oil	1,910,119	$1	5c	4-26-37	.10	5	2⅝	2⅞	⅞
7⅝	5⅜	700	6	5¾	6	Texon Oil & Land	336,028	$2	15cQ	6-30-37	.60	9¾	5⅜	6⅞	5

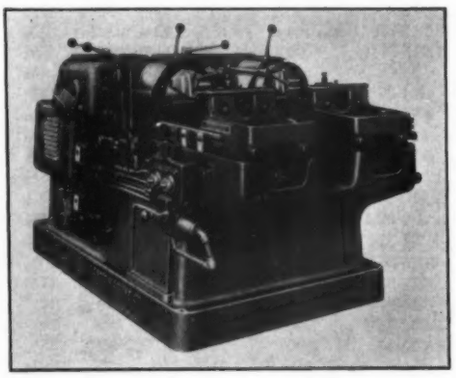
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Device for Turning Operations Is Put on Market by Landis

Landis Machine Co., of Waynesboro, Pa., has designed a hydraulically operated double-spindle machine for turning operations. The Lanhydro is a hydraulically controlled machine designed to proceed through its entire cycle automatically with



one tripping of the control lever. In appearance it is similar to the Landmaco threading machine and all the tested mechanical features of the Landmaco have been retained. A special centering device for supporting the work during the turning operation consists of a female center backed up by a long spiral spring to keep the pressure against the work constant. The center travels back through the spindle with the advancement of the carriage. By using the traveling center to support the work, concentricity between the head of the shaft and the turned stem is assured.

A rapid feed is provided to carry the work to the turning head. A coarse turning feed then is used throughout the machining operation to a point within .008 inch to .010 inch of the shoulder. The Lanhydro is said by the manufacturer to provide an ideal method for turning steering-gear shafts and similar parts to prepare them for their final grinding operation.

Bulletins, Booklets and Other Literature for the Trade

Worthington vertical single-cylinder, single-stage type VS air-compressors are the subject of an eight-page illustrated bulletin offered by Worthington Pump & Machinery Corp., Harrison, N. J.

X-Pando Corp., 4315 Thirty-sixth Street, Long Island City, N. Y., has prepared for distribution a folder giving information concerning X-Pando pipe and joint compound.

Among articles in the current issue of the Wheatley Pumper, published by Wheatley Brothers Pump & Valve Manufacturers, Tulsa, is one on when and where various alloys were discovered.

Information concerning Monel wire screen and filter-cloth is presented in a 16-page illustrated booklet which International Nickel Co., Inc., 67 Wall Street, New York, is sending on request.

The new illustrated catalog of Chicago Metal Hose Corp., Maywood, Ill., tells a comprehensive picture story of flexible metal hose, including its use for superheated steam; for conveying fluids and chemicals, as vibration absorber for compressors, pumps and turbines; as compensator for high-temperature pipe lines, etc.

"The Welding of Enduro Stainless Steel" is a new 20-page booklet published by Republic Steel Corp., Cleveland, Ohio. This illustrated booklet describes the welding of stainless steel by electric arc, gas, seam, spot, projection and atomic hydrogen methods.

"Use This Magnet to Attract More Business" urges the Butler Manufacturing Co.'s elaborate new broadside devoted to its new "Boulevard Model" service station. The mailing piece is designed to inspire inquiries among major oil company marketing divisions and independent gasoline retailers.

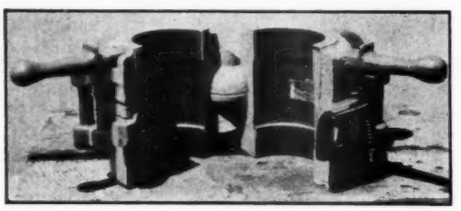
Continental Gauge Is Designed to Measure High Vacuums

The Continental Electric Co., Geneva, Ill., has announced its improved Tru-Vac model 6 vacuum gauge. This gauge, originally developed by the company's engineers for use in its production of electronic vacuum devices, is designed to measure high vacuums in the order of 0 to 10,000 microns. It is direct-reading, and other than the needles on the meter has no moving parts. It gives instantaneous and continuous readings, and the operator at all times is acquainted with the vacuum conditions in the system being operated.

The gauge indicates the presence of water and other vapors and also indicates vacuum changes at the instant they occur. It is adapted to any vacuum pump, system or tank. It is compensated for changes in temperature or barometer. In case a permanent record of the vacuum conditions is desired, a recording device may be attached.

Two Important Features Mark Rotary and Tubing Elevators

The United rotary and tubing elevators, manufactured by the United Iron Works Co., Pittsburg, Kans., were designed to assure greater safety in the drilling and tubing of deep oil wells. The elevators offer two important features. First, the tooljoint can wear almost to a feather edge without causing injury to the elevator. The universal joint permits the elevator to be moved in the horizontal plane (to open and to close) as well as in the vertical. This allows the elevator to rock onto the

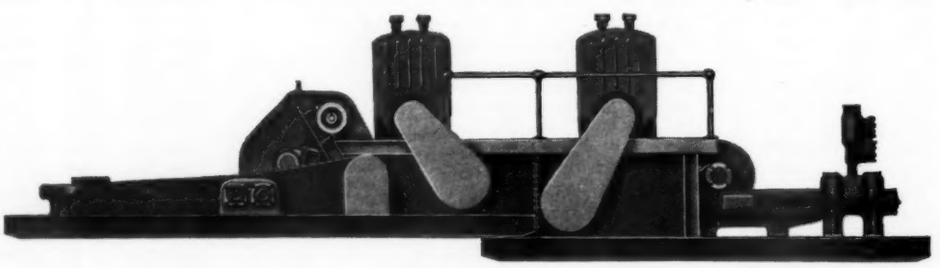


drillpipe or tubing in such manner that the force lifting the weight of the string offsets the wedging action of the tooljoint or tubing-collar, should it have worn so as to enter the elevators. Second, it is not necessary for the operator to reach overhead to open the gate. He need merely let the elevator come to him and then turn the left handle slightly away from him. This will move the finger, which in turn moves the gate away from its seat so it will clear the lug, forcing the elevator to break away from the pipe quickly.

The operator never is in danger of his hand or arm being injured while he is opening and closing the gate during the drilling or tubing operation, or when the drillpipe is singled out. The opening handle is also provided with a safety lock to be used while the elevator is on a fishing job.

SHAFFER OFFERS NEW SIZE PORTABLE DRILLING UNIT

The Shaffer Specialty Co., Tulsa, has announced a new light portable rotary drilling unit. All power-transmission equipment is adequate to meet field conditions and load demands with a high factor of safety. The unit is designed for 3,000 to 4,000 feet using 3-inch drillpipe and 2,500 to 3,000 feet of 4-inch drillpipe.

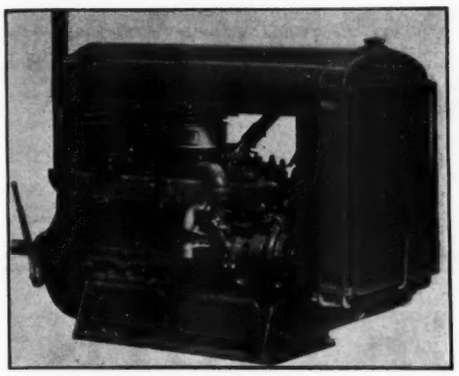


The drawworks, table, one engine with transmission shaft including forward and reverse, are mounted permanently on one set of skids, movable in one load. The slushpump and one engine also are mounted on a set of skids and are movable in one load. The separation is made between the engines for distribution of the loads, although the drawworks and engines can be built as one unit with the table and pump separate if desired. Mounting the engines on top permits the shafting with chains and clutches to utilize the space beneath, thus maintaining the allowable road limit of 8 feet in width.

The unit is designed for multiple-cylinder engine drive, employing assembled parts of standard make, readily accessible for adjustment and repair. Self-aligning roller bearings, alloy-steel shafting, multiple roller chain, machined tooth steel sprockets and friction clutches are used throughout. V-belt is used to connect engine shafts to power shafts. The reverse is the idler-sprocket and roller-chain type. It is actuated through a friction clutch and is positive in action with immediate accessibility in either direction. The throttle and the forward and reverse link are integral, designed for the convenience of the operator. The unit is arranged so both engines can be used on the pump and table for continuous operation by employing four speed changes for the table drive.

Efficiency and Reliability Built Into Lycoming Gas Engines

Continuity of service and long life are said to have been built into the AG series natural gas engines for well pumping and other oil-field uses, made by the Lycoming Manufacturing Co., Williamsport, Pa. These heavy-duty four-, six- and



eight-cylinder engines are identical in basic design and efficiency, and most of the parts of the three models are interchangeable. They are designed especially to operate on natural gas. All development and test work, factory and field, has been done with natural gas. Every effort has been made to give the lowest overall cost per brake horsepower hour, including initial investment, fuel, oil, attendance and maintenance. Radically different valve timing, compression ratio and combustion chamber give these Lycoming engines an unusually high thermal efficiency. Forced draft crankshaft ventilation is used with the air filtered. The water temperature is thermostatically controlled and the baffled head pistons have five rings. These features result in an unusually low oil consumption.

To reduce maintenance and attendance to a minimum, the engines have silicrome valve tappets; built-in gear-driven governor, with no external linkage; pressure lubrication to all moving parts; metal-element oil-filter; packless water pump; water and oil safety devices; elimination of all tubing in the lubrication and engine-cooling system and large removable inspection plates on both sides of the engine base.

Here and There With Men Who Manufacture Equipment

C. A. Fulmer, manager of the industrial division, Sealed Power Corp., Muskegon, Mich., is on a business trip through the Mid-Continent area.

Cutler-Hammer, Inc., Milwaukee, Wis., has opened a sales office in the Santa Fe Building, Dallas, Tex. The new office will handle the company's line of electric control apparatus.

Martin Rieger, Jr., has joined the New York office of Foxboro Co., Foxboro, Mass., as a specialist in the Pyrometer division. Mr. Rieger is an electrical instrument engineer.

The Central Foundry Co. has moved its New York office to 386 Fourth Avenue.

The Rotary Machine & Tool Co. is the new name of the organization formerly known as the LeBus Machine & Supply Co. Its headquarters remain at 1001 Southeast Twenty-ninth Street, Oklahoma City, Okla.

J. T. McFarland has been appointed sales manager of the natural gas engine division of the Lycoming Manufacturing Co., Williamsport, Pa. Mr. McFarland for the last 18 years had been associated with the Worthington Pump & Machinery Corp. as an engineer in the oil fields.

Rex Alworth, formerly with the Continental Supply Co. in the Hobbs, N. M., area, is now representing the United Supply & Manufacturing Co. in the Eunice and West Texas district, with headquarters in Eunice.

The Star Drilling Machine Co.'s Wichita Falls, Tex., warehouse has been transferred to 509 South Eleventh Street, Abilene, Tex. Henry Brooks is manager.

James J. Newman, for the past four years a vice president of the B. F. Goodrich Co., has been named vice president and general manager of the company's tire division.

The Duraloy Co. has appointed Harvey T. Harrison sales manager with headquarters at the main office and plant, Scottdale, Pa. Mr. Harrison was for several years in charge of sales in the Chicago territory.

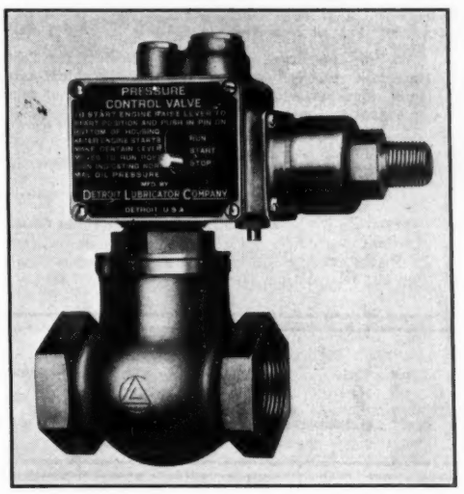
Edward J. Mehren has resigned as president of the Portland Cement Association to devote his entire time to personal interests in Arizona and in the East. Mr. Mehren was elected in 1931 as the first full-time, paid president of the association, which was organized in 1902.

Transferred to Houston Office

Stuart T. (Red) Penick, with Link-Belt Co. for the past two years in an engineering capacity, has been transferred to the Houston office, where he will devote his time to engineering development work on Link-Belt oil-country chains, mud vibrating screens, RC roller chains, flexible couplings, antifriction bearings and pillow-blocks, working under the direction of Pete Wallace, oil country division manager. Mr. Penick graduated from the University of Texas school of mechanical engineering in 1935 and joined Link-Belts' engineering staff to familiarize himself with the company's equipment and its application. He spent the past two years in the Ewart works in Indianapolis, the Dodge works and the plant in Philadelphia.

Valve Stops Gas Flow in Case of Lubricating Oil Failure

The No. 535 cutoff valve, manufactured by the Detroit Lubricator Co., 5900 Trumbull Avenue, Detroit, Mich., is a safety device designed positively



to shut off the fuel supply to gas-burning, internal-combustion engines in the event of lubricating oil failure. It operates mechanically and is not dependent upon electrical circuits. It is available in two sizes, 1½-inch and 2-inch I.P.S. The valve is installed in the main fuel gas line between the engine and hand-controlled gas valve.

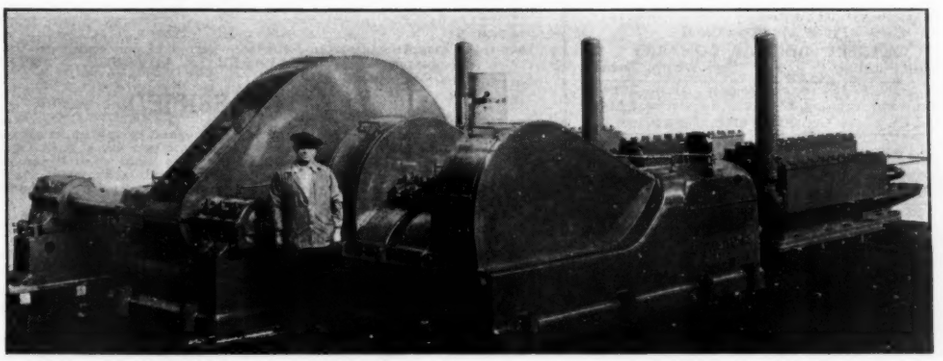
The body and mechanism frame of the valve are of cast brass. The valve disc is of specially treated leather providing leakproof shutoff. The power element bellows is of seamless brass manufactured to rigid specifications. It will withstand pressures in excess of requirements, according to the manufacturer.

Johnston Opens Executive Offices

The Johnston Oil Field Service Corp., exclusive licensee of the Johnston formation testing tool in the Gulf Coast, Mid-Continent and other areas except the West Coast, has opened executive offices in Suite 844, First National Bank Building, Houston, Tex. The manufacturing plant and main service depot are at 131 Harvard Street, Houston, and field branches are maintained at central working points throughout active oil regions.

THREE FLATCARS REQUIRED TO SHIP HUGE PUMP

Goulds Pumps, Inc., Seneca Falls, N. Y., has completed construction of what is said to be the largest oil pipe-line pump in this country. It was made for service in the southwestern oil fields. The huge pump, of the horizontal triplex double-acting plunger type, with a 38-inch stroke, weighs approximately 75 tons. Capacity is 58,000 bbls. of oil a day—almost 2,500,000 gallons every 24 hours.



The pump has three cylinders, each weighing 9,400 pounds, machined out of a solid steel forging. The gear-wheel is 9 feet 2 inches in diameter and weighs 8,500 pounds. The pinion-shaft and drive-shaft diameters are 10 and 12 inches, respectively. The center frame casting, weighing over 10 tons, is the largest casting ever poured in the foundry of the Goulds plant. It is 13½ feet long, 5 feet wide and 4½ feet high. Three flatcars were required to ship the pump. Work has started on another.

Oil Man's Calendar

June

14-19—Paris, France, Second World Petroleum Congress, during International Exposition.

17—Tulsa, annual meeting, National Stripper Well Association, Mayo Hotel.

20-26—Findlay, Ohio, Findlay's Golden Celebration of Oil and Gas.

25-26—Dallas, Tex., National Oil Scouts Association, annual meeting, Baker Hotel.

June—July

28-July 2—New York, American Society for Testing Materials, fortieth annual meeting, Waldorf-Astoria Hotel, together with fourth A.S.T.M. exhibit of testing apparatus and related equipment.

July

12-13—Santa Fe, N. M., Interstate Oil Compact Commission meeting.

September

(?)—San Francisco, Calif., North American Gasoline Tax Conference.

15-17—Atlantic City, National Petroleum Association, annual meeting, Hotel Traymore.

27—Cleveland, Ohio, American Gas Association, nineteenth annual convention.

September—October

27-Oct. 1—Rochester, National Association of Petroleum Retailers, fifth national convention.

30-Oct. 1.—Tulsa, S.A.E. Fuels and Lubricants Regional Meeting.

October

7-9—Los Angeles, Calif., S.A.E. National Aircraft Production Meeting, Ambassador Hotel.

11-15—Kansas City, Mo.—Twenty-sixth National Safety Congress and Exposition.

11-16—Houston, Tex., Oil-World Exposition.

14-16—Pittsburgh, Pa., mid-year meeting, American Association of Petroleum Geologists, William Penn Hotel.

14-16—Houston, Tex., Independent Petroleum Association of America, annual meeting.

26—New York, Oil Trades Association of New York.

28—New York, S.A.E. Annual Dinner, Commodore Hotel.

29-30—Dallas, Tex., Mid-Continent Oil and Gas Association of Texas, annual meeting.

October—November

27-Nov. 3—New York, National Automobile Show, Grand Central Palace.

November

9-12—Chicago, American Petroleum Institute, eighteenth annual meeting, Stevens Hotel.

December

6-11—New York, Exposition of Chemical Industries, Grand Central Palace.

8-10—Flint, Mich., S.A.E. National Production Meeting.

1938

March

16-18—New Orleans, twenty-third annual meeting, American Association of Petroleum Geologists.

April

17-21—Dallas, Tex., American Chemical Society.

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

For Sale—Equipment

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FOR SALE: 15—3' x 15' National Tank Company sand hogs—cheap. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: Several used reconditioned Hughes plunger lift units complete for use with 7" casing and 2⅜" OD or 2⅞" OD tubing. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: 25,000' of new 2⅞" OD 10 thread 5.73-lb external upset Pittsburgh seamless steel tubing reamed for Hughes plunger lift. Located at our Oklahoma City warehouse. I. T. I. O., Bartlesville, Oklahoma.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

USED ROTARY EQUIPMENT FOR SALE

2—125 H.P. 250 lb. W.P. Acme Boilers
1—100 H.P. 250 lb. W.P. Acme Boiler
2—125 H.P. 250 lb. O.W.S. Boilers.
3—100 H.P. 200 lb. W.P. Brodrick Boilers.
1—5 C.3 Unitized Draw Works.
1—6 in. Lucey Unitized Draw Works.
1—20 in. Denver-Gardner Mud Pump.
1—16 in. Johnson Mud Pump.
1—14 in. Johnson Mud Pump.
1—14 in. Ideal Mud Pump
1—27½ in. Lucey R. B. Rotary Table.
2—No. 10 Ideal Rotary Tables.
1—Type B—Regan Crown Block.
1—66 in. Union Tool Traveling Block.
1—72 in. Johnson Tool Traveling Block.
1—12 x 12 Johnson Engine.
2—12 x 12 Ideal Engines.

Also Miscellaneous Drilling, Fishing and Rigging up Tools, Fittings and Boilerfeed Pumps—Located in Oklahoma and Kansas. Communicate with

MidCo Tool & Supply Co.
Box 1542,
OKLAHOMA CITY, OKLA.

FOR SALE OR LEASE—2,500 bbl. cap. oil refinery, 40,000 bbl. storage, or will sell complete equipment to reliable company. Oklahoma Refining Co., 3200 E. 4th St., Oklahoma City, Okla.

FOR SALE — Band wheel power, complete with engine, belt, house, etc. 250 bbl. steel tank. Eastern Kansas. Ernest Platt, 101 W. 11th, Kansas City, Missouri.

BOILERS—3-520 HP B&W WT. 200 lbs. with superheaters.
Feedwater heater and weigher, 250,000 lbs. per hour.
Evaporator system for above boilers, feed water.
Paul G. Bentley, Burt Bldg., Dallas

FOR SALE: One 300 HP 150-lb. pressure Hartford inspected Edgemore boiler. Height 10' 10", width 9' 8" with 9½" water leg, two 34" drums 149 4-inch flues 18' long. Also two 72 x 16 boilers 150-lb. pressure and one 125 HP 125-lb. pressure. All these boilers in good condition. Terminal Oil Mill Co., Oklahoma City, Okla.

For Sale—Equipment

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50—Practically new 80,000-bbl. steel roof tanks, latest type.
125—55,000-bbl. storage tanks at great saving. Prices quoted on request for tanks standing, cut down, or reerected on your grade. Have all other sizes available. All tanks strictly guaranteed.

All kinds refinery equipment, valves, fittings, machinery, pumps and pump repair parts.
Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION
64 North Second St. Kansas City, Kansas

For Sale—Equipment

FOR SALE: A large stock of McEvoy hand operated blowout preventers. I. T. I. O. Company, Bartlesville, Oklahoma.

FOR SALE—CASH
National 3A6—1936 Drilling machine with shear poles. Drilled three wells and in perfect condition. Also, complete string tools and accessories 18" to 5⅜" all perfect condition, 2 boilers, boiler house timbers, lumber, corrugated iron for derrick floor, house, engine house, etc. Also 361' 75 lb. 15½", 1011' 50 lb. 12½", 1408' 40.5 lb. 10" Pittsburgh Seamless Steel casing Grade C Range 1 and 2005' 32 lb. 8¼" and 2665' 24 lb. 6⅝" Republic Electric weld steel casing Grade C Range 1 with casing shoes and clamps. Casing used in three wells never tonged and in perfect condition. Material located 20 miles northwest of Howard, Kansas. Will sell Machine and casing for 70% of list and tools for 60%. Also 1800 feet of good 28 lb. 8¼" casing, 12 miles from Howard, Kansas, at 52½c per foot.
FRANK ANDERSON
Phones 3-4032 and 4-1273
611 Union National Bank Building,
Wichita, Kansas.

A COMPLETE 1200 bbl. capacity GASOLINE REFINERY located in Shreveport. Formerly operated as the Griswold Refinery or the Cedar Grove Refinery. Apply J. E. Slattery, 1022 Slattery Building. Office Phone 7564, Shreveport, La.

FOR SALE: Two Cameron No. 5 six stage centrifugal pumps, one with 500 h.p. GE motor, 30,000 bbl. 24 hours, with 600 h.p. GE motor, 35,000 bbl. 24 hours, synchronous motors with panel boards, good condition. MAX ZEIGLER & BROS., Muncie, Indiana.

FOR SALE: Standard Engineering 8" pipe cutter and threader with complete set of dies and taps. Will sacrifice. Highway Trailer Company, Edgerton, Wisconsin.

LUBE PLANT
CENTRAL MID-CONTINENT AREA. Complete equipment for Asphalt or Paraffin Base Crude, with several types available. On R. R. siding. Address communications to Box H-801, The Oil and Gas Journal, Tulsa, Okla.

10 SHARPLES SUPER-CENTRIFUGES, type M4 P5 Q10 complete with 3-HP G. E. Induction motors in extra good condition ready for immediate operation—also spare bowl and 6 spindles. Located at Bradford, Pennsylvania. Address Bradford Oil Refining Company, Bradford, Pa.

WRECKING
USED REFINERY MATERIAL FOR SALE
We have purchased the refinery of the Atlantic Refining Company at Pittsburgh, Pa., and will dismantle the same. We have for sale large quantities of pipe, valves, condensers and tanks of all sizes and description, cracking stills, belt conveyors, water towers and refinery equipment.
ROSEN WRECKING COMPANY
Atlantic Refining Plant
Butler Street
Pittsburgh, Pa.

YOU have your organization and can give good service. Does the Billion Dollar Petroleum Industry know it? Have you made it easy for oil men to order from you? If not, the surest and best way to promote the merits of your company is to use The Oil and Gas Journal —the oldest and best petroleum publication in the world.

For Sale—Equipment

FOR SALE: Before moving machine shop to new location, selling our entire stock used pipe, casing, valves, pipe connections, pumps, etc. Elliott Machine & Supply Co., Depew, Okla. See A. D. Elliott.

FOR SALE: 6 class C-10 Sullivan pump heads with 15' stroke used in Oklahoma City operations. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: LEVI SMITH REFINERY
Clarendon Pa. Address inquiries
Penn-Reserve Oil Co. L. G. Lockward, Sec.
48 Arlington Ave., Caldwell, N. J.

Equipment Wanted

WANTED: 1 Pipe Line Pump—capacity 80/100-bbls. per hour against 500-lbs. pressure, preferably motor driven. Also, 1 Air Compressor, 200 cu. ft. per minute, 100-lbs. pressure. Address Bradford Oil Refining Company, Bradford, Pa.

OIL FIELD Boilers—3 of at least 75 H.P. rating and allowable working pressure of not less than 175 lbs. Must be worth the money. Give location. Address Box H-815, The Oil and Gas Journal, Tulsa, Oklahoma.

Situations Wanted

REFINERY CHEMIST. 5 years' experience. Qualified as Chief Chemist and also in control and research work. Graduate Chemical Engineer. Available for immediate connection. Excellent references. Address Box H-814, The Oil and Gas Journal, Tulsa, Oklahoma.

GRADUATE CHEMIST — Fifteen years' experience in oil refineries and commercial laboratory. Available at once. Address Box H-811, The Oil and Gas Journal, Tulsa, Okla.

WANTED: AN EMPLOYER

Young man, Certified Public Accountant, well qualified in income tax, security exchange registration, and auditing with 15 years' experience in oil accounting, now employed, desires to affiliate preferably with an Oil Producer who needs modern practice and management in accounting. Address

Box H-820
The Oil and Gas Journal
Tulsa, Okla.

GENERAL SUPERINTENDENT of skimming and cracking plants available in near future. Thoroughly experienced and can give good references. Address Box H-802, The Oil and Gas Journal, Tulsa, Okla.

MALE SECRETARY. Young man, age 26, graduate of high school and commercial secretarial business course at Bowling Green Business University, Shorthand, Typing, Bookkeeping. Experience with large coal company. Excellent health. Good references as to character and ability. Address Box H-821, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

OPERATORS AND HELPERS WANTED for new refinery in Texas. Must have had experience with Dubbs Cracking and Reforming Vacuum and Atmospheric distillation. Give particulars in first letter. Talco Asphalt and Refining Co., Mt. Pleasant, Texas.

Leases—Production

EL SENOR DE LA CARRERA
Have 200 acres in the above survey Southwest Duval County, Texas, 5-year commercial lease at $5.00 per acre. P. O. Box 974, San Antonio, Texas.

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Leases—Production

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

New Mexico OIL LEASES WHOLESALE
40 acres at a time.
Roy G. Barton, Clovis, New Mexico.

LEASES near Paluxy-Trinity sand Oklahoma Ordovician tests now drilling where there is chance for 50 to 1 return few weeks. E. CROFT, Proctor, Texas.

Specializing leases twenty acres up dollar acre, East Tex., La., S. Ark. Owners—Attorney. Box 1122, Little Rock, Ark.

LANDS Leases, Royalties, anywhere, bought, sold. Lands, $2 acre up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

980 ACRES YOAKUM CO., TEXAS
OIL AND GAS LEASE for immediate sale, consisting of Sec. 596 and W½ Sec. 597 in active developmental sector. Submit maximum offer to owner. Dr. J. A. Robinson, National Military Home, Los Angeles, Cal.

LEASES and ROYALTIES
Kearny County, Kansas
BEYMER & BEYMER, Lakin, Kansas

WELL WANTED—On 1,000 acre block in Permain Basin, Texas, South-East of Howard-Glasscock pool. Howard-Glasscock has produced 60,000,000 bbls. past six years. Major company recently paid bonus for extention of lease near this block. Will give 6/8 of oil and gas under block for well to go 2,700 feet. Good possibility commercial production at less than 2,000. Address Box 1082, Austin. Texas.

AM ready to figure with you on your bargains in Lands in fee or any type of Oil properties to buy or sell. My thirty years in this business here enables me to know values large or small. E. B. REEVES, Box 475, McLean, Gray County, Texas.

WANTED: Stripper oil production or wells or leases that are ready for salvage. Address Box H-724, The Oil and Gas Journal, Tulsa, Oklahoma.

OIL and Gas Leases and Royalties, some producing and some near drilling wells. In the Permian Basin of West Texas and Lea County, New Mexico.
C. E. POYNOR
Naylor Hotel Building, San Angelo, Texas.

ARKANSAS
Does not have any production (proration) restrictions. The opportunity for quick "payouts" is obvious. Come here and investigate royalty and lease opportunities.
WILLIAM MONROE LAYTON
P. O. Box 411 Texarkana, Ark.

OIL GEOLOGY—CHANCE ELIMINATED
Co-operation with responsible operators to demonstrate our system, which eliminates dry holes in oil industry, and invite investigation. Strataphysic System, Box 375, Durant, Oklahoma.

HAVE TWO 5,000 acre blocks adjacent new Powder Wash field along Colo.-Wyo. state line. Big lease play. Structures mapped U.S.G.S. and major geologists. Six sands under 5,000 feet. Would like to contact responsible drilling contractor with rotary equipment who would take interest, also brokers to handle leases or finance. S. Marvin James & Co., University Building, Denver, Colorado.

I OWN 480 acres in fee next to Sisne well in Wayne County, Illinois. Will make more liberal lease than any other owner. S. M. Homan, 7205 Exchange Ave., Chicago.

ZAVALLA COUNTY BLOCK
Have 6,000 acres Northwest portion Zavalla County, Texas, area geology Indio formation picked up by Wilcox well approximately 500 ft. out crops. This block can be handled as drilling proposition or commercial lease. P. O. Box 974, San Antonio, Texas, for further information.

TO LEASE for oil purposes, several hundred acres of land in Anderson Co., Kans. Oil was drilled in on this farm several years ago. W. M. Dary, 224 E. 16th St., Long Beach, California.

FOR SALE—Kermit Townsite lots with half the minerals, surrounded by oil and gas wells. Opportunity for small investor, located in heart of Winkler County oil field. L. E. HULTS, 607 Pet. Bldg., Fort Worth, Texas.

NEW MEXICO and COLO. LEASES against our developments. We have three under full operation. Diversified locations, fully geologized and recommended tests against semi proven production. VEGAS DOME . . San Miguel County, N. M.; OJO STRUCTURE . . Huerfano County, Colo.; ALAMO STRUCTURE . . Huerfano County, Colo. If you want to connect with real developments under full operation, financed and making good tests, write S. W. Pressey, Box 614, Pueblo, Colorado.

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